Table of Contents

As confidentially submitted to the Securities and Exchange Commission on May 12, 2023
Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Turnstone Biologics Corp.
(Exact name of registrant as specified in its charter)

Delaware	2836	83-2909368
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

9310 Athena Circle, Suite 300
La Jolla, California 92037
(347) 897-5988
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Sammy Farah, M.B.A., Ph.D.
President and Chief Executive Officer
Turnstone Biologics Corp.
9310 Athena Circle, Suite 300
La Jolla, California 92037
(347) 897-5988
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Divakar Gupta Ryan Sansom Cooley LLP 55 Hudson Yards New York, New York 10001 (212) 479-6000	*Copies to:* P. Joseph Campisi, Jr. Chief Legal Officer Turnstone Biologics Corp. 9310 Athena Circle, Suite 300 La Jolla, California 92037 (347) 897-5988	Nathan Ajiashvili Latham & Watkins LLP 1271 Avenue of the Americas New York, New York 10020 (212) 906-1200

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement is declared effective.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box. ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion
Preliminary Prospectus dated , 2023

PROSPECTUS

Shares

Common Stock

This is Turnstone Biologics Corp.'s initial public offering. We are selling shares of our common stock.

We expect the initial public offering price to be between $ and $ per share. Currently, no public market exists for the shares of our common stock. After pricing of this offering, we expect that the shares will trade on the Nasdaq Global Market under the symbol "TSBX."

We are an "emerging growth company" and a "smaller reporting company" as defined under the federal securities laws and, as such, have elected to comply with certain reduced public company disclosure standards. See the section titled "Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

Investing in our common stock involves risks that are described in the "Risk Factors" section beginning on page 14 of this prospectus.

	Per Share	Total
Public offering price	$	$
Underwriting discount(1)	$	$
Proceeds before expenses, to us	$	$

(1) We refer you to the section titled "Underwriting" beginning on page 210 of this prospectus for additional information regarding underwriting compensation.

The underwriters may also exercise their option to purchase up to an additional shares of common stock from us, at the public offering price, less the underwriting discount, for 30 days after the date of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The shares will be ready for delivery on or about , 2023.

BofA Securities **SVB Securities** **Piper Sandler**

The date of this prospectus is , 2023.

TABLE OF CONTENTS

We and the underwriters have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus or in any applicable free writing prospectus is accurate only as of the date of this prospectus or any such free writing prospectus, as applicable, regardless of its time of delivery or of any sale of our common stock. Our business, financial condition, results of operations and future growth prospects may have changed since that date.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, including the sections titled "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Special Note Regarding Forward-Looking Statements," and our consolidated financial statements and the related notes included elsewhere in this prospectus, before making an investment decision. Unless the context otherwise requires, references to "we," "us," "our," "the company" and "Turnstone USA" refer to Turnstone Biologics Corp., a Delaware corporation, and our wholly owned subsidiaries, Turnstone Biologics Inc., a corporation under the Canada Business Corporations Act, which we refer to in this prospectus as Turnstone Canada, and Myst Therapeutics, LLC, a Delaware limited liability company.

Overview

We are a clinical stage biotechnology company focused on developing new medicines to treat and cure patients with solid tumors. Approved immunotherapies represent a significant advancement in the treatment of solid tumors, but many patients either do not respond or experience relapsed disease following an initial response. We believe the most significant challenge to creating curative immunotherapies in these patients is the low numbers of T cells that can recognize and attack the tumor, which we refer to as tumor-reactive T cells. To address this problem, we are pioneering a differentiated approach to tumor infiltrating lymphocytes, or TILs, a clinically validated technology for treating solid tumors. We are developing next generation TIL therapies by selecting the most potent and tumor-reactive T cells, which we refer to as Selected TILs. Unlike other approaches that rely on standard "bulk TILs" that have demonstrated benefit only in limited tumor types, our Selected TILs are designed to extend the therapeutic benefit of TILs across the majority of solid tumors. We have initiated two Phase 1 clinical trials for our lead Selected TIL product candidate, TIDAL-01, for the treatment of breast cancer, colorectal cancer, uveal melanoma and other non-cutaneous and cutaneous melanomas. We intend to provide an initial clinical update across these two trials in . We are also actively advancing our preclinical pipeline programs including TIDAL-02, our next Selected TIL program, and our TIDAL-01 viral immunotherapy combination program.

Solid tumors present a major burden to society, with high mortality and poor outcomes associated with more advanced disease. Several key factors, such as tumor heterogeneity and challenging tumor microenvironments, or TMEs, have made treatment of solid tumors more difficult than treatment of hematologic cancers. Immunotherapies that activate the immune system to enhance and/or create anti-tumor immune responses, such as immune checkpoint inhibitors, or ICIs, have improved outcomes for some patients. However, more than 85% of cancer patients fail to respond to ICI therapy. The effectiveness of ICIs is heavily dependent on the presence of tumor-reactive T cells that ICIs can reinvigorate, and many patients lack a sufficient number of T cells that recognize the target tumor. Therefore, we believe new treatments that can expand and enhance the patient's tumor-reactive T cells are needed.

TILs are a type of cell therapy that harness the patient's own immune cells to target their own tumors. TIL therapy involves the isolation of lymphocytes from the patient's tumor, expansion of the isolated cells outside the body, and then infusion of the cells back into the patient. TILs have the ability to penetrate, recognize, and kill cancer cells and offer potential to treat or cure solid tumors. Because TILs include an expansive breadth of lymphocytes that are specific to the patient's tumor antigens, we believe they have the potential to overcome tumor heterogeneity which often presents a significant challenge for other therapies. Clinical trials with standard "bulk TILs," the first generation of TIL therapy that involves isolation and expansion of all of the TILs in the tumor sample, have shown clinical efficacy in limited solid tumor types while demonstrating a consistent and manageable safety profile.

To date, several hundred patients in the United States have received bulk TIL therapies, with the greatest success observed in metastatic melanoma. In metastatic melanoma patients refractory to PD-(L)1 treatments, bulk TIL monotherapy has yielded objective response rates of approximately 30% to 50%, with complete response rates ranging from approximately 5% up to 20%. Beyond metastatic melanoma, bulk TIL therapy has demonstrated therapeutic potential in a limited number of solid tumors, including squamous cell carcinoma of the head and neck, cervical cancer, and non-small cell lung cancer. We believe that the therapeutic benefit of TILs is driven by the subset of tumor-reactive T cells, and that the key limitation for bulk TILs is the small number and proportion of tumor-reactive T cells that make up the bulk TIL product (reported median less than 3%). We believe increasing the proportion and diversity of tumor-reactive T cells in a TIL product will generate greater tumor killing and expand the therapeutic benefit of TILs to a greater breadth of tumor types, where bulk TILs have not shown clinical benefit to date.

Our Solution: Selected TILs

We are developing next generation TIL therapies designed to drive therapeutic benefit and curative outcomes across multiple solid tumors. Our innovative Selected TIL approach focuses on selecting and expanding the most potent tumor-reactive T cells to overcome the limitations of bulk TILs. This approach expands upon work conducted in academia that demonstrated improved clinical responses for certain selected TILs in solid-tumor types where bulk TILs have not shown clinical benefit. We are leveraging this work to establish a standardized manufacturing process for large scale production of our Selected TILs.

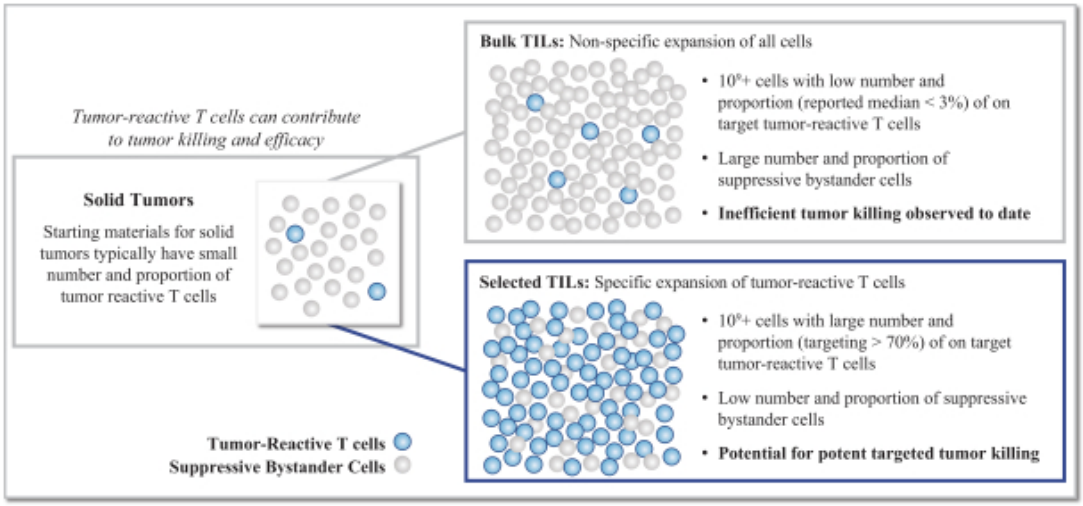
Our Selected TIL approach employs the following foundational principles to yield the greatest number and proportion of tumor-reactive T cells in our TIL product candidates:

(1) *Unbiased identification of patient-specific tumor antigens:* We seek to identify the most comprehensive set of patient-specific tumor antigens. We use an unbiased identification process that aims to find and capture the greatest diversity of antigens with the potential to drive the most robust T cell response. Our proprietary approach is unlike other TIL products that are biased toward a specific subset or class of antigen(s), which may miss relevant tumor antigens or focus on the wrong targets.

(2) *Selection of greatest breadth of tumor-reactive T cells from patient extracted TILs:* Our goal is to capture and isolate the greatest number and proportion of a patient's tumor-reactive T cells that have the potential to attack and destroy heterogeneous solid tumors. We aim to select the greatest diversity of T cells by using a function-based screening process that confirms reactivity to the identified patient-specific tumor antigens rather than relying on a bioinformatics-based prediction algorithm that may not be truly predictive.

(3) *Expansion of tumor-reactive T cells and removal of non-tumor-reactive bystander cells:* We expand our selected tumor-reactive TIL population to magnitudes consistent with bulk TIL products and actively remove unnecessary bystander cells. This selective expansion results in a substantially higher absolute number and proportion of tumor-reactive T cells in the final product in comparison to the relatively infrequent tumor-reactive T cells that are routinely found in bulk TIL.

The potential advantages of Selected TILs over bulk TILs are depicted in the figure below.



Supporting Clinical Evidence

We believe the growing body of prospective and translational clinical data in the TIL field supports the potential of our Selected TIL approach to provide superior clinical benefit relative to bulk TILs. Studies have demonstrated that the benefit of bulk TILs is driven by a small subset of tumor-reactive T cells in the bulk TIL product. Furthermore, clinical studies in academic centers utilizing rudimentary selection strategies to select for these tumor-reactive T cells have demonstrated positive outcomes in challenging solid tumors, where bulk TILs have had limited to no success.

Building a Product Pipeline to Further Enhance the Quality and Function of Selected TILs

Our Selected TIL approach sets us apart from others in the industry that are utilizing bulk TILs, including newer bulk TIL approaches that introduce genetic modifications and culture media additives to enhance TIL quality and function. We believe that without the optimal starting population of tumor-reactive T cells, further enhancements or modifications to bulk TILs are unlikely to succeed in extending therapeutic benefit beyond the limited tumor types where bulk TILs have already shown clinical efficacy. We are also expanding our product pipeline by making additional modifications to our proprietary Selected TILs and deploying them in differentiated combination strategies to further enhance TIL quality and function.

Modifications to Enhance TIL Quality

We are developing pipeline programs where we are evaluating enhanced culture conditions during the TIL production process to maintain and further improve TIL quality *ex vivo*. These enhanced culture conditions are designed to incorporate a mix of cytokines with the potential to rejuvenate dysfunctional and/or exhausted T cells.

Additionally, we plan to introduce functional genetic modifications into our pipeline programs that may drive potential for more sustained TIL quality and persistence *in vivo*. These gene edits will be designed to modify the tumor-reactive T cells to proliferate while resisting exhaustion post infusion, minimize their dependence on exogenous IL-2 for *in vivo* proliferation, and maintain their potential to kill tumors in suppressive tumor microenvironments. We are currently evaluating and prioritizing clinically informed targets for these genetic modifications.

Virus Combinations

Viral immunotherapy is a therapeutic modality with widespread potential to drive and modulate immune responses to solid tumors. Many viruses have inherent oncolytic activity that can be modulated through genetic engineering to enhance potency and safety. These viruses preferentially infect, replicate within, and kill malignant tumor cells, and can induce broad immune responses. Viral immunotherapies are designed to convert immunologically unresponsive "cold" tumor microenvironments to more reactive "hot" tumor microenvironments and thereby enhance the activity of other immunotherapies.

We are strongly positioned to combine our Selected TIL products with our proprietary viral immunotherapies utilizing two distinct approaches:

- viral immunotherapy pre-treatment (prior to TIL extraction): optimize TIL harvest and broaden access to indications that are currently less amenable to generating effective TIL products; and
- viral immunotherapy post-treatment (following delivery of the TIL product): optimize TIL trafficking and function and further deepen the response and durability of our TIL therapies.

Our Pipeline

We believe that our Selected TIL approach has the ability to drive therapeutic benefit in a wide range of solid tumors. We are developing a broad pipeline aimed at improving outcomes for patients, as illustrated in the chart below.

Programs		Product Overview	Key Indications	Preclinical	Phase 1	Phase 2	Phase 3	Next Anticipated Milestone
Selected TILs	TIDAL-01	Tumor-reactive selected TILs	Breast Cancer, Colorectal Cancer, Uveal Melanoma					Clinical update in
			Cutaneous Melanomas and Non-cutaneous Melanomas		Moffitt Collaboration*			
		Combination with viral immunotherapy	Solid Tumors					IND submission
	TIDAL-02	Selected TILs with next-gen manufacturing and TIL quality enhancements	Solid Tumors					IND submission

* Investigator sponsored trial at Moffitt Cancer Center

We are advancing TIDAL-01, our lead Selected TIL product candidate, for the treatment of multiple solid tumor indications. TIDAL-01 utilizes an unbiased identification and functional screening process to isolate and selectively expand the greatest breadth of tumor-reactive TILs from the patient's tumor. Our TIDAL-01 production process is designed to deliver at least 10^9 cells and targets greater than 70% functional and potent tumor-reactive T cells. We have initiated two Phase 1 clinical trials for TIDAL-01, including a multi-site trial for the treatment of breast cancer, colorectal cancer, and uveal melanoma, and an investigator sponsored trial with H. Lee Moffitt Cancer Center and Research Institute, Inc., or Moffitt, in both cutaneous and non-cutaneous melanomas. We intend to provide an initial clinical update across these two trials in .

Our next Selected TIL program, TIDAL-02, is being designed to encompass a next generation streamlined manufacturing process for tumor-reactive T cells and additional modifications to enhance TIL quality and function. We believe that TIDAL-02 has the potential to address the unmet medical need in solid tumor indications that are distinct from and complementary to TIDAL-01. TIDAL-02 is currently in preclinical development.

We intend to evaluate the combination of TIDAL-01 with viral immunotherapy through two approaches: (1) treatment of the patient with viral immunotherapy prior to TIL extraction to optimize TIL harvest and broaden applicability to additional tumor types with low immune cell infiltration and (2) treatment of the patient with viral immunotherapy following treatment with TIDAL-01 to optimize TIL trafficking and infiltration into solid tumors and to support the anti-tumor functions of infiltrating immune cells. We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

Our History and Team

We were founded in 2015 with the goal of developing medicines to treat and cure patients with solid tumors. Our initial scientific and technological focus was built around developing novel oncolytic viral immunotherapies. In late 2020, we acquired an innovative TIL platform and capabilities to expand our portfolio of cancer immunotherapies. Our TIL-based technology now represents the foundational therapeutic modality driving our current pipeline, though we continue to explore the synergistic potential of combining these two technologies in the pursuit of our mission.

We have assembled a team with extensive experience in complex biologics, drug discovery and development, manufacturing, and business and commercial product development. We are led by our Chief Executive Officer, Sammy Farah, M.B.A, Ph.D., who has 20 years of scientific, business, and executive management experience in the biotechnology industry at Synthetic Genomics, Immune Design, Versant Ventures, and Merck. Our research organization is led by our Chief Scientific Officer, Stewart Abbot, Ph.D., who brings over 20 years of research and development experience in cell-based and immune-oncology products from Adicet, Fate, Celgene and GE Healthcare. Our clinical development and regulatory organization is led by our interim Chief Medical Officer, Michael Burgess, MBChB, Ph.D., who has more than 20 years of experience building research and development teams and leading strategy and execution of clinical development at SpringWorks Therapeutics, Bristol-Myers Squibb, Roche, and Eli Lilly. Vijay Chiruvolu, Ph.D., our interim Chief Technology Officer who leads our technical operations organization, holds over 27 years of relevant industry experience in process development, manufacturing, supply chain, and quality at Instil Bio, Kite Pharma/Gilead Sciences, Scios, Avigen, Hoffmann-La Roche, Johnson & Johnson, and Amgen, and was responsible for the manufacturing and process teams that worked towards regulatory approval of two cell therapy products, Yescarta and Tecartus. Our Chief Business Officer, Saryah Azmat, brings over 10 years of experience in biopharmaceutical business development, corporate strategy and capital formation at Bristol Myers Squibb and Putnam Associates. Our Chief Legal Officer, P. Joseph Campisi, Jr., Esq., holds over 30 years of experience in mergers and acquisitions, collaborations, and securities offerings and corporate governance at Scorpion, Bristol Myers Squibb, and Pillsbury Winthrop. Venkat Ramanan, Ph.D., our Chief Financial Officer, holds over 20 years of experience in biopharmaceutical finance and operations at Seagen, Gilead, and Amgen.

Since our inception, we have raised $361.9 million in capital, including $171.9 million from preferred stock financings and $190.0 million in non-dilutive payments from strategic partnerships. We are supported by a syndicate that includes entities affiliated with Versant Ventures, or Versant Ventures, OrbiMed Private Investments VI, LP, or OrbiMed, entities affiliated with F-Prime Capital, or F-Prime, New Emerging Medical Opportunities Fund IV SCSp, or Sectoral Asset Management, and entities affiliated with PFM Health Sciences, or PFM Health Sciences, and other leading investors.

Our Strategy

Our mission is to develop new medicines to treat and cure patients with solid tumors using our next generation TIL therapy approach, which we believe has the potential to offer clinically meaningful and differentiated benefits to patients. We intend to achieve our mission by implementing the following strategies.

- Advance our lead Selected TIL product candidate, TIDAL-01, for the treatment of solid tumors. We believe that TIDAL-01 has the potential to offer therapeutic benefit in a broad range of solid tumor

types with high unmet medical need, and we are pursuing a clinical development strategy designed to demonstrate benefit in multiple indications and support an efficient path to registration. We have initiated a Phase 1b clinical trial that will evaluate TIDAL-01 in solid tumors with high unmet medical need where the benefit of bulk TILs has not been established, including breast cancer, colorectal cancer, and uveal melanoma. Additionally, we have also initiated a Phase 1 clinical trial in collaboration with Moffitt that will evaluate TIDAL-01 in multiple types of melanoma including cutaneous melanomas, an indication where bulk TILs have been clinically validated. We believe that positive results from one or both of these clinical trials have the potential to support advancement of TIDAL-01 into registrational trials across multiple solid tumor types.

- Develop TIDAL-02 and continue to build our pipeline of additional Selected TIL programs. We are expanding our portfolio by making modifications to our Selected TILs to streamline manufacturing and further enhance the quality and function of Selected TILs. This strategy is exemplified by our second Selected TIL program, TIDAL-02. This program is intended to employ a next generation rapid selection process, culture enhancements to improve and maintain TIL quality ex vivo, and/or functional gene edits to ensure durable enhancements to TIL quality and persistence *in vivo*, while minimizing dependance on exogenous IL-2 for *in vivo* proliferation. We intend to advance TIDAL-02 towards the clinic for the treatment of solid tumor indications that are distinct from and complementary to TIDAL-01, with the goal of moving into earlier lines of therapy. In addition to TIDAL-02, we have ongoing research efforts to further expand our pipeline of Selected TIL programs.
- Leverage viral immunotherapies to further potentiate the therapeutic benefit of Selected TILs across multiple solid tumors. Given our oncolytic virus expertise and our proprietary viral immunotherapies, we believe we are strongly positioned to be a leading company in using viral immunotherapy to further potentiate the therapeutic benefit of TILs. We plan to advance our TIDAL-01 and viral immunotherapy combination strategy to further expand the breadth and depth of response of our Selected TILs across multiple solid tumors. We also plan to explore additional Selected TIL and viral immunotherapy combinations.
- Commercialize and improve patient access to Selected TIL therapy through our CMC development expertise and manufacturing capabilities. We are expanding our in-house cell therapy process and analytical development capacity and capability, and in parallel assembling a network of external manufacturing and supply chain partners. We have designed a robust analytical characterization program to complement clinical development, minimize regulatory hurdles and enable access to our Selected TILs for a broad range of patients with solid tumors. Our intent is that all early-clinical stage Selected TIL product candidates are built upon a CMC foundation with clear line-of-sight to commercial viability, sequenced and staged appropriately with clinical progress.
- Support existing and opportunistically explore future strategic partnerships and collaborations to maximize the potential of our programs. We are leveraging deep and strategic relationships with a number of academic collaborators, including Moffitt, to help support development of our Selected TIL approach and pipeline. Our academic relationships are designed to enable us to tap into the deep expertise within these leading institutes that have decades of research and clinical experience in developing TIL therapies. We plan to continue to explore opportunistic collaborations with both academic and industry partners to extend our reach and maximize the potential of our programs.

Risks Affecting Our Business

Our business is subject to a number of risks, including risks that may prevent us from achieving our business objectives or may adversely affect our business, results of operations and financial condition that you should consider before making a decision to invest in our common stock. These risks are discussed more fully in the section titled “Risk Factors” beginning on page 14 of this prospectus, and include the following:

- We have limited operating history, have incurred substantial net losses and anticipate that we will continue to incur net losses for the foreseeable future. We have no products approved for commercial sale, have never generated any revenue from product sales and may never be profitable.

- We will require additional capital in addition to the proceeds from this offering to fund our operations, and if we fail to obtain necessary capital on acceptable terms, or at all, we will not be able to complete the development and future commercialization of our current and any future product candidates.
- Our management, as of December 31, 2022, and our independent registered public accounting firm, in their report on our audited consolidated financial statements as of and for the year ended December 31, 2022, have concluded that there is substantial doubt as to our ability to continue as a going concern.
- Our business is highly dependent on the success of our lead Selected TIL product candidate TIDAL-01, as well as our other current and any future product candidates. All of our product candidates will require significant additional preclinical or clinical development before we are able to seek regulatory approval for and launch a product commercially.
- Unfavorable global economic conditions, including any adverse macroeconomic conditions or geopolitical events, including the COVID-19 pandemic, the conflict between Ukraine and Russia, and recent bank failures affecting the financial services industry, could adversely affect our business, financial condition, results of operations or liquidity, either directly or through adverse impacts on certain of the third parties on which we rely to conduct certain aspects of our preclinical studies or clinical trials.
- Clinical development involves a lengthy and expensive process, with uncertain outcomes. We may incur significant costs and/or experience delays in completing, or ultimately be unable to complete, the development of our current and future product candidates, including our lead product candidates.
- Preclinical development is uncertain. Our preclinical programs may experience delays or generate unfavorable data, and may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all, and any of these events would adversely affect our business, results of operations and financial condition.
- Our product candidates are based on a novel approach to the treatment of cancer, which makes it difficult to predict the time and cost of product candidate development.
- Use of our product candidates could be associated with side effects, adverse events or other properties or safety risks, which could cause us to suspend or discontinue clinical trials, abandon a product candidate, delay or preclude approval, prevent market acceptance, limit the commercial profile of an approved label or result in other significant negative consequences that could severely harm our business, results of operations, and financial condition.
- We face significant competition and if we fail to compete effectively, our business, results of operations and financial condition could be adversely affected.
- Negative developments in the fields of immuno-oncology and TIL-based immunotherapy could damage public perception of our product candidates and adversely affect our business, results of operations and financial condition.
- We have relied and expect to continue to rely on third parties to conduct certain aspects of our preclinical studies and to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, comply with regulatory requirements or terminate the relationship, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.
- The regulatory approval process for our product candidates in the United States, and other jurisdictions is currently uncertain and will be lengthy, time-consuming and inherently unpredictable, and we may experience significant delays in the clinical development and regulatory approval, if any, of our product candidates.

- Our success depends in part on our ability to protect our intellectual property. It is difficult and costly to protect our proprietary rights and technology, and we may not be able to ensure their protection.
- Third-party claims of intellectual property infringement may prevent or delay our product discovery and development efforts.
- Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

Our Corporate Information

Turnstone Biologics Inc. was incorporated as a Canadian corporation on March 27, 2014. On December 13, 2018, we incorporated Turnstone Biologics Corp., a corporation under the laws of the State of Delaware. On December 14, 2018, we completed a reorganization from Canada to the United States, which we refer to as the Reorganization. In connection with the Reorganization, all of the shareholders of Turnstone Canada exchanged their shares in Turnstone Canada for shares of our new incorporated Delaware entity, as a result of which Turnstone Canada became our wholly owned subsidiary. Our principal executive offices are located at 9310 Athena Circle, Suite 300, La Jolla, California 92037, and our telephone number is (347) 897-5988. Our website address is www.turnstonebio.com. The information contained on, or accessible through, our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

We own various U.S. federal trademark applications and unregistered trademarks, including our company name. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the symbols ® and ™, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of relief from certain reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and only two years of selected financial data in this prospectus;
- an exception from compliance with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act;
- reduced disclosure about our executive compensation arrangements in our periodic reports, proxy statements and registration statements, including the registration statement of which this prospectus forms a part;
- exemptions from the requirements of holding non-binding advisory votes on executive compensation or golden parachute arrangements; and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor’s report on the financial statements.

We may take advantage of these provisions for up to five years or such earlier time that we no longer qualify as an emerging growth company. We would cease to qualify as an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenue of $1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a "large accelerated filer" under the rules of the U.S. Securities and Exchange Commission, or SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30th. We may choose to take advantage of some but not all of these reduced reporting burdens. For example, we may take advantage of the exemption from auditor attestation on the effectiveness of our internal control over financial reporting. To the extent that we take advantage of these reduced reporting burdens, the information that we provide stockholders may be different than you might obtain from other public companies in which you hold equity interests.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of this exemption, and, as a result, our operating results and financial statements may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

We are also a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our common stock held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than $100.0 million during the most recently completed fiscal year and our common stock held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

The Offering

Common stock offered by us	shares.
Option to purchase additional shares	We have granted the underwriters an option, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares from us.
Common stock to be outstanding immediately after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares of common stock in full).
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise their option to purchase additional shares in full), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, as follows: (i) approximately $ million to fund the continued development of TIDAL-01 in our two Phase 1 clinical trials for the treatment of breast cancer, colorectal cancer, uveal melanoma and other non-cutaneous and cutaneous melanomas, (ii) approximately $ million to advance our TIDAL-02 and TIDAL-01 and viral immunotherapy combination programs, and (iii) the remaining proceeds, if any, for working capital and general corporate purposes. We may also use a portion of the remaining net proceeds and our existing cash, cash equivalents and short-term investments, to in-license, acquire, or invest in complementary businesses, technologies, products, or assets. However, we have no current commitments or obligations to do so. See the section titled “Use of Proceeds.”
Risk factors	See the section titled “Risk Factors” beginning on page 14 and the other information included in this prospectus for a discussion of factors you should consider carefully before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	“TSBX”

The number of shares of our common stock to be outstanding after this offering is based on 123,977,816 shares of our common stock outstanding as of March 31, 2023, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into 99,791,338 shares of our common stock in connection with the closing of this offering, and excludes:

- 19,930,473 shares of our common stock issuable upon the exercise of outstanding stock options as of March 31, 2023, with a weighted-average exercise price of $1.11 per share;
- shares of our common stock issuable upon the exercise of outstanding stock options granted subsequent to March 31, 2023, with a weighted-average exercise price of $ per share;
- 2,930,403 shares of our common stock reserved for future issuance to Moffitt contingent on the achievement of certain clinical and regulatory milestones pursuant to our Alliance Agreement (as defined below) with Moffitt;

- shares of our common stock reserved for future issuance under our 2023 Equity Incentive Plan, or 2023 Plan, which will become effective upon the execution of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan; and
- shares of our common stock reserved for future issuance under our 2023 Employee Stock Purchase Plan, or ESPP, which will become effective upon the execution of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan.

Unless otherwise indicated, this prospectus reflects and assumes the following:

- the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of our common stock immediately prior to the closing of this offering;
- a -for- stock split of our common stock to be effected prior to the closing of this offering;
- no exercise of the outstanding options described above;
- no exercise by the underwriters of their option to purchase up to additional shares of our common stock; and
- the filing and effectiveness of our amended and restated certificate of incorporation immediately following the closing of this offering and the adoption of our amended and restated bylaws immediately prior to the closing of this offering.

Summary Consolidated Financial Data

The following tables set forth our summary financial data for the periods and as of the dates indicated. We have derived the summary consolidated statements of operations and comprehensive income (loss) data for the years ended December 31, 2021 and 2022 from our audited consolidated financial statements included elsewhere in this prospectus. We have derived the summary consolidated statements of operations and comprehensive income (loss) data for the three months ended March 31, 2022 and 2023 and the summary consolidated balance sheet data as of March 31, 2023 from our unaudited interim consolidated financial statements to be included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that should be expected in the future, and the consolidated statements of operations and comprehensive income (loss) data for the three months ended March 31, 2023 are not necessarily indicative of the results to be expected for the full year ending December 31, 2023 or any other period. You should read the following summary consolidated financial data together with our consolidated financial statements and the related notes included elsewhere in this prospectus and the information in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained elsewhere in this prospectus.

	Year Ended December 31,		Three Months Ended March 31,	
	2022	2021	2023	2022
			(unaudited)	
Consolidated Statements of Operations and Comprehensive Income (Loss) Data (in thousands):				
Collaboration revenue	$ 73,300	$ 101,293	$	$
Operating expenses:				
Research and development	$ 86,703	$ 54,754	$	$
General and administrative	18,223	13,546		
Total operating expenses	104,926	68,300		
Income (loss) from operations	(31,626)	32,993		
Other income (expense), including provision for income taxes, net	792	276		
Net income (loss)	$ (30,834)	$ 33,269	$	$
Net income (loss) per share of common stock attributable to common stockholders, basic[1]	$ (1.56)	$ 0.20	$	$
Net income (loss) per share of common stock attributable to common stockholders, diluted[1]	$ (1.56)	$ 0.16	$	$
Weighted-average number of shares used in computing net earnings, basic	19,884,775	17,168,919		
Weighted-average number of shares used in computing net earnings, diluted	19,884,775	21,562,009		
Pro forma net income (loss) per share of common stock attributable to common stockholders, basic and diluted[2]	$		$	
Pro forma weighted-average shares of common stock outstanding, basic and diluted[2]	$		$	

(1) See Note 12 to our audited consolidated financial statements and Note to our unaudited interim consolidated financial statements, each included elsewhere in this prospectus, for an explanation of the method used to calculate basic and diluted net loss per share and the weighted-average number of shares used in the computation of the per share amounts.

(2) Pro forma basic and diluted net income (loss) per share of common stock attributable to common stockholders has been prepared to give effect to adjustments to our capital structure arising in connection with the completion of this offering and is calculated by dividing pro forma net income (loss) per share of common stock attributable to common stockholders by the pro forma weighted-average shares of common stock outstanding for the period. The unaudited pro forma net income (loss) attributable to common stockholders used in the calculation of unaudited pro forma basic and diluted net income (loss) per share of common stock attributable to common stockholders is equal to net income (loss) attributable to common stockholders. The unaudited pro forma basic and diluted weighted-average common shares outstanding used in the calculation of unaudited pro forma basic and diluted net income (loss) per share for the three months ended March 31, 2023 and for the year ended December 31, 2022 have been prepared to reflect the conversion of all of the outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of our common stock as if the offering had occurred on January 1, 2022.

	As of March 31, 2023		
	Actual	Pro Forma[1] (unaudited)	Pro Forma As Adjusted[2] [3]
Balance Sheet Data (in thousands):			
Cash, cash equivalents and short-term investments	$	$	$
Working capital[4]			
Total assets			
Redeemable convertible preferred stock			
Accumulated deficit			
Total stockholders' (deficit) equity			

(1) Pro forma balance sheet data reflects (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of common stock and the related reclassification of the carrying value of our convertible preferred stock to permanent equity in connection with the closing of this offering and (ii) the filing and effectiveness of our amended and restated certificate of incorporation that will be in effect immediately following the closing of this offering.

(2) Pro forma as adjusted balance sheet data reflects the pro forma items described immediately above and our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

(3) Pro forma as adjusted balance sheet data is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, each of our pro forma as adjusted cash, cash equivalents and short-term investments, working capital, total assets and total stockholders' (deficit) equity by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each 1,000,000 share increase or decrease in the number of shares offered by us would increase or decrease, as applicable, each of our pro forma as adjusted cash, cash equivalents and short-term investments, working capital, total assets and total stockholders' (deficit) equity by approximately $ million, assuming that the assumed initial offering price to the public remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

(4) We define working capital as current assets less current liabilities. See our consolidated financial statements and the related notes included elsewhere in this prospectus for further details regarding our current assets and current liabilities.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our consolidated financial statements and the related notes, and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could adversely affect our business, results of operations and financial condition. In any such event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial also may impair our business, results of operations and financial condition.

Risks Related to Our Business

We have limited operating history, have incurred substantial net losses and anticipate that we will continue to incur net losses for the foreseeable future. We have no products approved for commercial sale, have never generated any revenue from product sales and may never be profitable.

We are a clinical stage biotechnology company with a limited operating history. We were formed in 2014 and we have devoted substantially all of our efforts and financial resources to organizing and staffing our company, business planning, raising capital, discovering product candidates and securing related intellectual property rights, and conducting research and development activities for our Selected TIL programs and product candidates. Consequently, we have no meaningful operations upon which to evaluate our business and predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing program candidates. Investment in biotechnology product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval and become commercially viable. We have not yet demonstrated the ability to progress any product candidate through clinical trials, we have no products approved for commercial sale and we have not generated any revenue from product sales to date. We continue to incur significant research and development and other expenses related to our ongoing operations. As a result, we are not profitable and, with the exception of the year ended December 31, 2021, we have incurred net losses since our inception through March 31, 2023. For the years ended December 31, 2021 and 2022, we reported a net income of $33.3 million and a net loss of $30.8 million, respectively. For the three months ended March 31, 2022 and 2023, we reported a net loss of $ million and $ million, respectively. As of March 31, 2023, we had an accumulated deficit of $ million. We expect to continue to incur significant losses for the foreseeable future, and we expect these losses to increase as we continue our research and development of our Selected TIL programs, and seek regulatory approvals for our product candidates.

We anticipate that our expenses will increase substantially if, and as, we:

- advance the development of our lead Selected TIL product candidate TIDAL-01 through two Phase 1 clinical trials and, if the results are favorable, into further clinical development;
- actively advance our other preclinical pipeline programs, including TIDAL-02, our next Selected TIL program and our TIDAL-01 and viral immunotherapy combination program;
- seek regulatory approvals for any product candidates that successfully complete clinical trials, if any;
- increase the amount of research and development activities to identify and develop Selected TIL product candidates;
- hire additional clinical, quality control and scientific personnel;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical development, manufacturing and commercialization efforts and our operations as a public company;

- maintain, expand and protect our intellectual property portfolio;
- expand our external manufacturing relationships;
- oversee and maintain our manufacturing infrastructure;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly with third parties; and
- invest in or in-license enabling technologies.

To become and remain profitable, we and any current or potential future collaborators must develop and eventually commercialize products with significant market potential. This will require us to be successful in a range of challenging activities, including completing preclinical studies and clinical trials, obtaining marketing approval for product candidates, manufacturing, marketing and selling products if we obtain marketing approval, obtaining market acceptance for such products and satisfying any post-marketing requirements. We may never succeed in any or all of these activities and, even if we do, we may never generate revenue that is significant or large enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and the price or of common stock, and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause you to lose all or part of your investment.

Even if we succeed in commercializing one or more of our product candidates, we will continue to incur substantial research and development and other expenditures to develop and market additional product candidates. We also may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' (deficit) equity and working capital.

We will require additional capital in addition to the proceeds from this offering to fund our operations, and if we fail to obtain necessary capital on acceptable terms, or at all, we will not be able to complete the development and future commercialization of our current and any future product candidates.

Our operations have consumed substantial amounts of cash since our inception. We expect to continue to spend substantial amounts of cash to conduct further research and development, preclinical studies and clinical trials of our current and future product candidates, to seek regulatory approvals for our product candidates and to launch and commercialize any products if we receive regulatory approval.

We have initiated two Phase 1 clinical trials for our lead Selected TIL product candidate, TIDAL-01, including a multi-site trial for the treatment of breast cancer, colorectal cancer, and uveal melanoma, and an investigator sponsored trial with Moffitt in both cutaneous and non-cutaneous melanomas. We intend to provide an initial clinical update across these two trials in . We are also developing TIDAL-02, our next Selected TIL program, which is currently in preclinical development and we intend to evaluate the combination of TIDAL-01 with viral immunotherapy. We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

As of March 31, 2023, we had approximately $ million in cash, cash equivalents and short-term investments. Based on our current operating plan, we expect that the net proceeds from this offering, together with our cash, cash equivalents and short-term investments, will enable us to fund our operations for at least the next months. However, our future capital requirements and the period for which our existing resources will support our operations may vary significantly from what we expect, and we will in any event require additional capital in order to complete clinical development of any of our current programs. Our monthly

spending levels will vary based on new and ongoing development and corporate activities. Because the length of time and activities associated with development of our programs and product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and future commercialization activities, if any. Our future capital requirements will depend on many factors, including:

- the costs of conducting clinical trials;
- the progress of preclinical development for our programs and clinical trials of our current earlier-stage product candidates;
- the costs of manufacturing;
- the scope, progress, results and costs of discovery, preclinical development, laboratory testing and clinical trials for other potential product candidates we may develop, if any;
- the costs, timing and outcome of regulatory review of our product candidates;
- our ability to establish and maintain collaborations and partnerships on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments to us or by us under any collaboration agreements we might have at such time;
- the costs of preparing, filing and prosecuting patent applications, obtaining, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- our headcount growth and associated costs as we expand our business operations and research and development activities;
- the cost of operating as a public company;
- our ability to mitigate the impact of adverse macroeconomic conditions or geopolitical events, including the COVID-19 pandemic, the ongoing conflict between Ukraine and Russia, recent bank failures or other factors on our preclinical and clinical development or operations;
- the costs and timing of future commercialization activities, if any, including product sales, marketing, manufacturing and distribution, if we receive marketing approval for any of our product candidates;
- our ability to achieve sufficient market acceptance, adequate coverage and reimbursement from third-party payors and adequate market share; and
- the amount of revenue, if any, received from commercial sales of our product candidates, if any of our product candidates receive marketing approval.

We do not have any committed external source of funds or other support for our development efforts and additional funding may not be available on acceptable terms, or at all. Market volatility resulting from adverse macroeconomic conditions or geopolitical events, including the COVID-19 pandemic, the ongoing conflict between Ukraine and Russia, recent bank failures or other factors may further adversely impact our ability to access capital as and when needed. Until we can generate sufficient product or royalty revenue to finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other arrangements. If we raise additional funds through public or private equity offerings, the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. Further, to the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, your ownership interest will be diluted. In addition, any debt financing may subject us to fixed payment obligations and covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to

us. We also could be required to seek collaborators for our current or future product candidates at an earlier stage than otherwise would be desirable or relinquish our rights to product candidates or technologies that we otherwise would seek to develop or commercialize ourselves. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may need to significantly delay, scale back or discontinue the development or future commercialization of one or more of our product candidates, if approved, or one or more of our other research and development initiatives and we may need to undertake additional workforce reductions or restructuring activities in the future. Any of the above events could adversely affect our business, results of operations and financial condition and cause the price of our common stock to decline.

Our management, as of December 31, 2022, and our independent registered public accounting firm, in their report on our audited consolidated financial statements as of and for the year ended December 31, 2022, have concluded that there is substantial doubt as to our ability to continue as a going concern.

Our audited consolidated financial statements for the year ended December 31, 2022 were prepared assuming that we will continue as a going concern. The going concern basis of presentation assumes that we will continue in operation for the foreseeable future and will be able to realize our assets and satisfy our liabilities in the normal course of business and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or amounts and classification of liabilities that may result from our inability to continue as a going concern. As of December 31, 2022, our management concluded that, based on our expected operating losses and negative cash flows, there is substantial doubt about our ability to continue as a going concern for the twelve months after the date the consolidated financial statements were issued. Our ability to continue as a going concern is subject to our ability to obtain sufficient financing. If we cannot continue as a going concern, we may have to liquidate our assets and may receive less than the value at which those assets are carried on our combined financial statements, and it is likely that our stockholders may lose some or all of their investment in us. After this offering, we may not raise the funding we require such that substantial doubt about our ability to continue as a going concern continues. If we seek additional financing to fund our business activities in the future and there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding on commercially reasonable terms or at all.

Our business is highly dependent on the success of our lead Selected TIL product candidate TIDAL-01, as well as our other current and any future product candidates. All of our product candidates will require significant additional preclinical or clinical development before we are able to seek regulatory approval for and launch a product commercially.

We are very early in our development efforts. If TIDAL-01 or any future product candidates encounter safety or efficacy problems, development delays or regulatory issues or other problems, our development plans and business may be significantly harmed.

We have initiated two Phase 1 clinical trials for our lead Selected TIL product candidate, TIDAL-01, including a multi-site trial for the treatment of breast cancer, colorectal cancer, and uveal melanoma, and an investigator sponsored trial with Moffitt in both cutaneous and non-cutaneous melanomas. We intend to provide an initial clinical update across these two trials in . We are also developing TIDAL-02, our next Selected TIL program, which is currently in preclinical development and we intend to evaluate the combination of TIDAL-01 with viral immunotherapy. We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

Our current and any future product candidates will require additional preclinical or clinical development, regulatory review and approval in one or more jurisdictions, substantial investment, and access to sufficient commercial manufacturing capacity and significant marketing efforts before we can generate any revenue from product sales. We may not have the financial resources to continue development of, or to modify existing or enter

into new collaborations for, any product candidate if we experience any issues that delay or prevent regulatory approval of, or our ability to commercialize, our product candidates, including:

- negative or inconclusive results from our preclinical studies or clinical trials or the clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical testing or clinical trials or abandon a program;
- product-related side effects experienced by subjects in our clinical trials or by individuals using products or immunotherapies similar to our product candidates;
- delays in submitting INDs or comparable foreign applications or delays or failure in obtaining the necessary authorizations or approvals from regulators to commence a clinical trial, or a suspension or termination of a clinical trial once commenced;
- conditions imposed by the FDA or comparable foreign regulatory authorities regarding the scope or design of our clinical trials;
- delays in enrolling subjects in clinical trials;
- high drop-out rates of subjects from clinical trials;
- inadequate supply or quality of product candidates or other materials necessary for the conduct of our clinical trials;
- greater than anticipated clinical trial costs;
- poor effectiveness of or safety issues associated with our product candidates during clinical trials;
- unfavorable FDA or comparable foreign regulatory authorities' inspection and review of a clinical trial site;
- failure of our third-party contractors or investigators to comply with regulatory requirements or otherwise meet their contractual obligations in a timely manner, or at all;
- potential disruptions caused by the COVID-19 pandemic or other health pandemics or epidemics, including difficulties in initiating clinical sites, enrolling and retaining participants, diversion of healthcare resources away from clinical trials, travel or quarantine policies that may be implemented, and other factors;
- delays and changes in regulatory requirements, policy and guidelines, including the imposition of additional regulatory oversight around clinical testing generally or with respect to our technology in particular;
- varying interpretations of data by the FDA or comparable foreign regulatory authorities; or
- unsuccessful improvements to our internal manufacturing processes.

The occurrence of any of the above events could adversely affect our business, results of operations and financial condition.

If we fail to develop and receive approval for our existing or any additional future product candidates, our commercial opportunity could be limited which could adversely affect our business, results of operations and financial condition.

Developing, obtaining marketing approval for, and commercializing any product candidates will require substantial additional funding beyond the net proceeds of this offering and will be subject to the risks of failure inherent in medical product development. We may not be able to successfully advance any of our existing product candidates or any additional product candidates through the development process.

Even if we obtain approval from the FDA or comparable foreign regulatory authorities to market our existing or any additional product candidates for the treatment of solid tumors or any other indication, any such product candidates may not be successfully commercialized, widely accepted in the marketplace, or more effective than other commercially available alternatives. If we are unable to successfully develop and commercialize our existing or any additional product candidates, our commercial opportunity may be limited and our business, results of operations and financial condition may be adversely affected.

Unfavorable global economic conditions, including any adverse macroeconomic conditions or geopolitical events, including the COVID-19 pandemic, the conflict between Ukraine and Russia, and recent bank failures affecting the financial services industry, could adversely affect our business, financial condition, results of operations or liquidity, either directly or through adverse impacts on certain of the third parties on which we rely to conduct certain aspects of our preclinical studies or clinical trials.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. Global economic and business activities continue to face widespread uncertainties, and global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including severely diminished liquidity and credit availability, rising inflation and monetary supply shifts, rising interest rates, labor shortages, declines in consumer confidence, declines in economic growth, increases in unemployment rates, recession risks, and uncertainty about economic and geopolitical stability. A severe or prolonged economic downturn, or additional global financial or political crises, could result in a variety of risks to our business, including delayed clinical trials or preclinical studies, delayed approval of our product candidates, delayed ability to obtain patents and other intellectual property protection, weakened demand for our product candidates, if approved, or our ability to raise additional capital when needed on acceptable terms, if at all. The extent of the impact of these conditions on our operational and financial performance, including our ability to execute our business strategies and initiatives in the expected timeframe, as well as that of third parties upon whom we rely, will depend on future developments which are uncertain and cannot be predicted. A weak or declining economy also could strain our suppliers, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business. Furthermore, our stock price may decline due in part to the volatility of the stock market and the general economic downturn.

Actual events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. For example, on March 10, 2023, Silicon Valley Bank, or SVB, was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation, or FDIC, as receiver. Similarly, on March 12, 2023, Signature Bank and Silvergate Capital Corp. were each swept into receivership, and on May 1, 2023, First Republic Bank was also swept into receivership. Although a statement by the Department of the Treasury, the Federal Reserve and the FDIC indicated that all depositors of SVB would have access to all of their money after only one business day of closure, including funds held in uninsured deposit accounts, borrowers under credit agreements, letters of credit and certain other financial instruments with SVB, Signature Bank or any other financial institution that is placed into receivership by the FDIC may be unable to access undrawn amounts thereunder. If any of the banks which hold our cash deposits were to be placed into receivership, we may be unable to access such funds. As of March 31, 2023, all of our cash on deposit was maintained at two financial institutions in the United States, and our current deposits are in excess of federally insured limits. If further failures in financial institutions occur where we hold deposits, we could experience additional risk. Any such loss or limitation on our cash, cash equivalents and short-term investments would adversely affect our business. In addition, if any of the third parties on which we rely to conduct certain aspects of our preclinical studies or clinical trials are unable to access funds pursuant to such instruments or lending arrangements with such a financial institution, such parties' ability to fulfill their obligations to us could be adversely affected.

If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our stockholders, cause us to incur debt or assume contingent liabilities, and subject us to other risks.

We may evaluate various acquisitions and strategic partnerships, including licensing or acquiring complementary products, intellectual property rights, technologies or businesses. Any potential acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness, contractual obligations or contingent liabilities;
- the issuance of our equity securities;
- assimilation of operations, intellectual property and products of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing product programs and initiatives in pursuing such a strategic merger or acquisition;
- retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party, their regulatory compliance status, and their existing products or product candidates and marketing approvals; and
- our inability to generate revenue from acquired technology and/or products sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

In addition, if we undertake acquisitions, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities and this inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business. Any of the foregoing may adversely affect our business, results of operations and financial condition.

We may not realize the expected benefits from our recent workforce reduction and it could result in total costs and expenses that are greater than expected and could disrupt our business.

In October 2022, we implemented a plan to consolidate our operations, which included a move to San Diego, California and a reduction in our workforce. The changes to our operations and the reduction in workforce may yield unintended consequences and costs, such as the loss of institutional knowledge and expertise, attrition beyond our intended reduction in force, and a reduction in morale among our remaining employees, all of which may have an adverse effect on our development activities, our business, results of operations or financial condition. If we are unable to realize the expected operational efficiencies, our business, results of operations and financial condition would be adversely affected. In addition, to the extent we do not realize such anticipated operational efficiencies, we may need to undertake additional workforce reductions or restructuring activities in the future. Furthermore, our reduction in force may be disruptive to our operations. For example, our workforce reductions could yield unanticipated consequences, such as attrition beyond planned staff reductions, increased difficulties in our day-to-day operations and reduced employee morale. If employees who were not affected by the reduction in force seek alternative employment, this could result in our seeking contractor support at unplanned additional expense or harm our productivity. Our workforce reductions could also harm our ability to attract and retain qualified management, scientific, clinical, and manufacturing personnel who are critical to our business. Any failure to attract or retain qualified personnel could prevent us from successfully developing our potential product candidates. We may also discover that the reductions in workforce could make it difficult for us to pursue new opportunities and initiatives and require us to hire qualified replacement personnel, which may

require us to incur additional and unanticipated costs and expenses. Our failure to successfully accomplish any of the above activities and goals may have a material adverse impact on our business, results of operations and financial condition.

Our ability to use our net operating loss carryforwards to offset future income could be subject to limitation.

As of December 31, 2022, we had approximately $2.3 million of U.S. federal and $1.0 million of state net operating loss, or NOL, carryforwards. Our U.S. federal NOL carryforwards can be carried forward indefinitely, but use of such carryforwards is limited to 80% of taxable income. If not utilized, our state NOL carryforwards will begin to expire at various dates beginning in 2038. These NOL carryforwards could expire unused and be unavailable to offset future income tax liabilities if we are not able to generate sufficient taxable income to utilize our state NOL carryforwards before they expire. We have recorded a full valuation allowance related to our carryforwards due to the uncertainty of the ultimate realization of the future benefits of those assets.

Furthermore, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, the amount of benefits from our NOL carryforwards may be impaired or limited if we incur a cumulative ownership change of more than 50% over a three-year period. The completion of this offering, and future offerings of our securities may trigger such an ownership change. In addition, because we will need to raise substantial additional funding to finance our operations, we may in the future undergo further ownership changes. We have not conducted an analysis as to whether such a change of ownership has occurred, but if such a change has occurred or occurs in the future, we will be limited regarding the amount of NOL carryforwards that can be utilized annually in the future to offset taxable income. Any such annual limitation may significantly reduce the value of our NOL carryforwards before they expire, which could result in greater tax liabilities than we would incur in the absence of such a limitation.

We may have exposure to greater-than-anticipated tax liabilities, which could seriously harm our business.

The tax laws applicable to our international business activities, including the laws of the United States and other jurisdictions, are subject to change and uncertain interpretation. The U.S. government may enact significant changes to the taxation of business entities including, among others, the imposition of additional minimum taxes and an increase in the corporate tax rate. Any such change could have a significant impact on our cash flow.

Our income tax obligations are based on our corporate operating structure and third-party and intercompany arrangements, including the manner in which we develop, value, and use our intellectual property and the valuations of our intercompany transactions. The taxing authorities of the jurisdictions in which we operate may challenge our methodologies for valuing developed technology, intercompany arrangements, or transfer pricing, which could increase our worldwide effective tax rate and the amount of taxes we pay and seriously harm our business. Taxing authorities also may determine that the manner in which we operate our business is not consistent with how we report our income, which could increase our effective tax rate and the amount of taxes we pay and seriously harm our business. In addition, our future income taxes could fluctuate because of earnings being lower than anticipated in jurisdictions that have lower statutory tax rates and higher than anticipated in jurisdictions that have higher statutory tax rates, by changes in the valuation of our deferred tax assets and liabilities. We are subject to regular review and audit by U.S. federal and state and foreign tax authorities. Any adverse outcome from a review or audit could seriously harm our business. In addition, determining our worldwide provision for income taxes and other tax liabilities requires significant judgment by management, and there are many transactions where the ultimate tax determination is uncertain. Although we believe that our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our financial statements for such period or periods and may seriously harm our business.

Exchange rate fluctuations may adversely affect our business, results of operations and financial condition.

We have operations, including employing a portion of our workforce, in Ottawa, Canada. Owing to the international scope of our operations, fluctuations in exchange rates between the U.S. dollar and the Canadian

dollar may adversely affect our business, results of operations and financial condition. As a result, our business and the price of our common stock may be affected by fluctuations in foreign exchange rates, which may have a significant impact on our results of operations and cash flows from period to period. Currently, we do not have any exchange rate hedging arrangements in place.

Risks Related to Our Operations

We will need to grow the size of our organization, and we may experience difficulties in managing this growth, which could adversely affect our business.

As of March 31, 2023, we had 108 full-time employees. As our clinical development and future commercialization plans and strategies develop, and as we transition into operating as a public company, we may need to hire additional managerial, clinical, regulatory, sales, marketing, financial, legal and other personnel. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our development efforts effectively, including the clinical and FDA or comparable foreign regulatory authorities review process for our current product candidates and any future product candidates, while complying with our contractual obligations to contractors and other third parties;
- developing and managing our internal manufacturing operations effectively and in a cost-effective manner while increasing production capabilities for our product candidates to commercial levels;
- identifying and establishing additional facilities for our operations; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to commercialize our product candidates, if approved, will depend, in part, on our ability to effectively manage any future growth. Our management may have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services, including contract manufacturers and companies focused on antibody development and discovery activities. The services of independent organizations, advisors and consultants may not continue to be available to us on a timely or cost-efficient basis when needed, and we may not be able to find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality, accuracy or quantity of the services provided is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain, or may be substantially delayed in obtaining, regulatory approval of our product candidates or otherwise advance our business. We may not be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring new employees, consultants and contractors as necessary, we may not be able to successfully implement the tasks necessary to further develop and commercialize our current or any future product candidates, if approved, and, accordingly, may not achieve our research, development and future commercialization goals, which could adversely affect our business.

If we lose key management or other scientific or medical personnel, or if we fail to recruit additional highly skilled personnel, our business, results of operations and financial condition could be adversely affected.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on our executive officers and other members of our management team, including our President and

Chief Executive Officer, Sammy Farah, M.B.A., Ph.D. We do not currently maintain "key person" life insurance on the lives of our executives or any of our employees. This lack of insurance means that we may not have adequate compensation for the loss of the services of these individuals. The loss of the services of any of our executive officers or other members of our management team, including our scientific and medical personnel, and our inability to find suitable replacements in a timely manner could result in delays in product development and adversely affect our business, results of operations and financial condition.

We conduct our operations at our facility in San Diego, California. This region is headquarters to many other biopharmaceutical and biotechnology companies and many academic and research institutions. Competition for skilled personnel in our industry is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Generally, employment agreements with our key employees provide for at-will employment, which means that such employee could leave our employment at any time, with or without notice. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior scientific and medical personnel.

Our internal information technology systems, or those of our third-party contract research organizations, contract manufacturing organizations and other contractors and consultants, may fail or suffer security breaches, loss or leakage of data and other disruptions, which could result in a material disruption of our development programs, compromise sensitive information related to our business or prevent us from accessing critical information, potentially exposing us to liability, and could adversely affect our business, results of operations and financial condition.

We are increasingly dependent upon information technology systems to operate our business. In the ordinary course of business, we collect, store and transmit confidential information (including, but not limited to, intellectual property, confidential and proprietary business information and personal information). It is critical that we do so in a secure manner to maintain the confidentiality and integrity of all such information. We also have outsourced elements of our operations to third parties, and as a result we manage a significant number of third-party contractors who have access to our confidential information.

Despite the implementation of security measures, given the size and complexity and the increasing amounts of confidential information that our information technology systems maintain, such systems and those of our third-party contract research organizations, or CROs, and contract manufacturing organizations and other contractors and consultants are potentially vulnerable to attack, breakdown, damage or interruption from service interruptions, system malfunction, natural disasters, terrorism, war and telecommunication and electrical failures, as well as security breaches from inadvertent or intentional actions by our employees, contractors, consultants, business partners and/or other third parties, or from cyberattacks by malicious third parties (including the deployment of harmful malware, ransomware, malicious code, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information), which may compromise our information technology system infrastructure or lead to data leakage. We may face increased cybersecurity risks due to our reliance on internet technology and the number of our employees who are working remotely. Furthermore, because the techniques used to obtain unauthorized access to, or to sabotage, systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. We may also experience security breaches that may remain undetected for an extended period. Even if identified, we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are

designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and reputational damage and the further development and future commercialization of our current product candidates or any future product candidates could be delayed.

We and certain of our service providers are from time to time subject to cyberattacks and security incidents. While we do not believe that we have experienced any significant system failure, accident or security breach, our data protection efforts and our investment in information technology may not in the future prevent significant cyber incidents in our systems and those of our third-party contract research organizations and contract manufacturing organizations and other contractors and consultants that could adversely affect our business, results of operations and financial condition. For example, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our programs and the development of our product candidates could be delayed. In addition, the loss of clinical trial data for any of our product candidates could result in delays in our marketing approval efforts and significantly increase our costs to recover or reproduce the data. Furthermore, significant disruptions of or security breaches in our internal information technology systems and those of our third-party contract research organizations and contract manufacturing organizations and other contractors and consultants could result in the loss, misappropriation and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information and personal information), which could result in financial, legal, business and reputational harm to us. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our clinical trial subjects or employees, could harm our reputation directly, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information, which could result in significant legal and financial exposure and reputational damages that could adversely affect our business, results of operations and financial condition. Further, we do not currently maintain cybersecurity liability insurance coverage.

Our employees, independent contractors, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could adversely affect our business, results of operations and financial condition.

We are exposed to the risk of employee fraud or other illegal activity by our employees, independent contractors, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to (1) comply with the laws of the FDA or comparable foreign regulatory authorities, (2) provide true, complete and accurate information to the FDA or comparable foreign regulatory authorities, (3) comply with manufacturing standards we have established, (4) comply with healthcare fraud and abuse laws in the United States and similar foreign fraudulent misconduct laws, or (5) report financial information or data accurately or to disclose unauthorized activities to us. If we obtain FDA or comparable foreign regulatory authorities' approval of any of our product candidates and begin commercializing those products in the United States or abroad, our potential exposure under such laws will increase significantly, and our costs associated with compliance with such laws are also likely to increase. These laws may impact, among other things, our current activities with principal investigators and research patients, as well as proposed and future sales, marketing and education programs. It is not always possible to identify and deter misconduct by our employees, independent contractors, consultants, commercial partners and vendors. The precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could result in any of the following: the imposition of civil, criminal and administrative penalties, damages, monetary fines, individual imprisonment, disgorgement, possible exclusion from participation in government healthcare programs, additional reporting obligations and oversight if

we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings and the curtailment of our operations.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit future commercialization of our product candidates, if approved, which could adversely affect our business, results of operations and financial condition.

We face an inherent risk of product liability as a result of testing our product candidates, including our current and any of our future product candidates in clinical trials and will face an even greater risk if we commercialize any products, if approved. For example, we may be sued if our product candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical trials, manufacturing, marketing or sale. Any such product liability claims could include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. Claims also could be asserted under state consumer protection acts. Product liability claims could delay or prevent completion of our development programs. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit future commercialization of our product candidates, if approved. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- inability to bring a product candidate to the market, if approved;
- decreased demand for our products;
- injury to our reputation;
- withdrawal of clinical trial participants and inability to continue clinical trials;
- initiation of investigations by U.S. and foreign regulators;
- costs to defend the related litigation;
- diversion of management’s time and our resources;
- substantial monetary awards or settlements to trial participants;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize any product candidate, if approved; and
- decline in our stock price.

Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the future commercialization, if approved, of products we develop alone or with collaborators. We need to obtain additional insurance for clinical trials as our current pre-clinical and any future pre-clinical programs enter the clinical development phase. However, we may be unable to obtain, or may obtain on unfavorable terms, clinical trial insurance in amounts adequate to cover any liabilities from any of our clinical trials. Our insurance policies also may have various deductibles and exclusions, and we may be subject to a product liability claim for which we have no coverage. We may need to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, enforcing such indemnification provisions may cause diversion of management’s time and our resources and such indemnification may not be available or adequate should any claim arise.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could adversely affect our business, results of operations and financial condition.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our research and development activities involve the use of biological and hazardous materials and produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials, which could cause an interruption of our future commercialization efforts, research and development efforts and business operations, environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. Although we believe that the safety procedures utilized by our third-party manufacturers for handling and disposing of these materials generally comply with the standards prescribed by these laws and regulations, this may not be the case and we may not eliminate the risk of accidental contamination or injury from these materials. In such an event, we may be held liable for any resulting damages and such liability could exceed our resources and state or federal or other applicable authorities may curtail our use of certain materials and/or interrupt our business operations. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent. We cannot predict the impact of such changes or our future compliance. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities. Although we have environmental liability insurance for our San Diego facility as required by the related lease agreement, we do not currently carry specific biological waste or hazardous waste insurance coverage, workers compensation or property and casualty and general liability insurance policies that include coverage for damages and fines arising from biological or hazardous waste exposure or contamination.

Our insurance policies may be inadequate and potentially expose us to unrecoverable risks.

We have limited director and officer insurance and commercial insurance policies. Any significant insurance claims would have a material adverse effect on our business, results of operations and financial condition. Insurance availability, coverage terms and pricing continue to vary with market conditions. We endeavor to obtain appropriate insurance coverage for insurable risks that we identify; however, we may fail to correctly anticipate or quantify insurable risks, we may not be able to obtain appropriate insurance coverage, and insurers may not respond as we intend to cover insurable events that may occur. We have observed rapidly changing conditions in the insurance markets relating to nearly all areas of traditional corporate insurance. Such conditions have resulted in higher premium costs, higher policy deductibles and lower coverage limits. For some risks, we may not have or maintain insurance coverage because of cost or availability.

Our operations are concentrated in one location, and we or the third parties upon whom we depend may be adversely affected by earthquakes, pandemics or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our current operations are predominantly located in San Diego, California. Any unplanned event, such as flood, fire, explosion, earthquake, extreme weather condition, health epidemic, including the COVID-19 pandemic, power shortage, telecommunication failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities, or the manufacturing facilities of our third-party contract

manufacturers, may have a material and adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on our financial and operating conditions. Loss of access to these facilities may result in increased costs, delays in the development of our product candidates or interruption of our business operations. Earthquakes, pandemics or other natural disasters could further disrupt our operations and have a material and adverse effect on our business, results of operations and financial condition. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our research facilities or the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, could have a material adverse effect on our business. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business. However, in the event of an accident or incident at these facilities, the amounts of insurance may not be sufficient to satisfy any damages and losses. If our facilities, or the manufacturing facilities of our third-party contract manufacturers, are unable to operate because of an accident or incident or for any other reason, even for a short period of time, any or all of our research and development programs may be harmed and our clinical trials may be delayed. Any business interruption may adversely affect our business, results of operations and financial condition.

Risks Related to Research and Development

The successful development of biopharmaceuticals is highly uncertain.

The successful development of biotechnology is highly uncertain and is dependent on numerous factors, many of which are beyond our control. Product candidates that appear promising in the early phases of development may fail to reach the market for several reasons including:

- preclinical study results may show the product candidate to be less effective than desired or to have harmful or problematic side effects;
- clinical trial results may show the product candidates to be less effective than expected (*e.g.*, a clinical trial could fail to meet its primary endpoint(s)), to have unacceptable side effects or toxicities or to have effects in humans that differ from previously observed effects in lab animals;
- failure to receive the necessary regulatory approvals or a delay in receiving such approvals. Among other things, such delays may be caused by slow enrollment in clinical trials, patients withdrawing from clinical trials, length of time to achieve trial endpoints, additional time requirements for data analysis, or BLA, preparation, discussions with the FDA or comparable foreign regulatory authorities and any such request for additional preclinical or clinical data, or unexpected safety or manufacturing issues;
- manufacturing costs, formulation issues, pricing or reimbursement issues, or other factors that make a product candidate uneconomical; and
- the proprietary rights of others and their competing products and technologies that may prevent or otherwise make it uneconomical for one or more of our product candidates from being commercialized, if approved.

The length of time necessary to complete clinical trials and to apply for marketing approval for a final decision by a regulatory authority varies significantly from one product candidate to the next and may be difficult to predict. Even if we are successful in getting market approval, commercial success of any approved products also will depend in large part on the availability of coverage and adequate reimbursement from third-party payors, including government payors such as the Medicare and Medicaid programs, commercial insurers, and managed care organizations, which may be affected by existing and future healthcare reform measures designed

to reduce the cost of healthcare. Third-party payors could require us to conduct additional studies, including post-marketing studies related to the cost effectiveness of a product, to qualify for reimbursement, which could be costly and divert our resources. If third-party payors were to decide to not provide coverage and adequate reimbursement levels for any of our products, if approved, market acceptance and commercial success would be reduced.

In addition, if any of our product candidates are approved for marketing, we will be subject to significant regulatory obligations regarding the submission of safety and other post-marketing information and reports and registration, and will need to continue to comply (or ensure that our third-party providers comply) with cGMPs or similar foreign requirements and good clinical practices, or GCPs, for any clinical trials that we conduct post-approval. GCPs are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, clinical investigators and trial sites. In addition, there always is the risk that we or a regulatory authority might identify previously unknown problems with a product post-approval, such as adverse events of unanticipated severity or frequency. Compliance with these requirements is costly, and any failure to comply or other issues with our product candidates following approval, if any, could adversely affect our business, results of operations and financial condition.

Clinical development involves a lengthy and expensive process, with uncertain outcomes. We may incur significant costs and/or experience delays in completing, or ultimately be unable to complete, the development of our current and future product candidates, including our lead product candidates.

To obtain the requisite regulatory approvals to commercialize any product candidates, we must demonstrate through extensive preclinical studies and clinical trials that our product candidates are safe, pure and potent or effective in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain.

Differences in trial design between early-stage clinical trials and later-stage clinical trials make it difficult to extrapolate the results of earlier clinical trials to later clinical trials. Moreover, clinical data often are susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in clinical trials have nonetheless failed to obtain marketing approval of their products.

Successful completion of clinical trials is a prerequisite to submitting a BLA, to the FDA, a Marketing Authorization Application, or MAA, to the European Medicines Agency, or EMA, and similar marketing applications to comparable foreign regulatory authorities, for each product candidate and, consequently, the ultimate approval and commercial marketing of any product candidates. We do not know whether any of our clinical trials will be completed on schedule, if at all.

We may experience delays in initiating or completing clinical trials. We also may experience numerous unforeseen events during, or as a result of, any future clinical trials that we could conduct that could delay or prevent our ability to receive marketing approval or commercialize our current product candidates, including our lead product candidates, or any future product candidates, including:

- regulators or institutional review boards, or IRBs, or ethics committees may not authorize us or our investigators to commence or continue a clinical trial or conduct a clinical trial at a prospective trial site;
- we may experience delays in reaching, or fail to reach, agreement on acceptable terms with prospective trial sites and prospective CROs the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trials of any product candidates may fail to show safety, purity or potency, or produce negative or inconclusive results and we may decide, or regulators may require us, to conduct additional preclinical studies or clinical trials or we may decide to abandon product development programs;

- the number of subjects required for clinical trials of any product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or subjects may drop out of these clinical trials or fail to return for post-treatment follow-up at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that we add new clinical trial sites or investigators;
- we may elect to, or regulators, or IRBs or ethics committees may require that we or our investigators, suspend, vary, or terminate clinical research or trials for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of any product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate to initiate or complete a given clinical trial; for example, the process development for TILs is very complicated and requires significant logistics, and any issues with this process could delay our trials;
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators, or IRBs or ethics committees to suspend or terminate the trials, or reports from clinical testing of other therapies may raise safety or efficacy concerns about our product candidates; and
- the FDA or comparable foreign regulatory authorities may require us to submit additional data such as long-term toxicology studies, or impose other requirements before permitting us to initiate a clinical trial.

We also could encounter delays if a clinical trial is suspended or terminated by us, the IRBs or ethics committees of the institutions in which such trials are being conducted, or the FDA or comparable foreign regulatory authorities, or recommended for suspension or termination by the Data Safety Monitoring Board, or DSMB, or foreign equivalent for such trial. A suspension or termination may be imposed by the FDA or comparable foreign regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product or treatment, failure to establish or achieve clinically meaningful trial endpoints, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials also may ultimately lead to the denial of regulatory approval of our product candidates. Further, the FDA or comparable foreign regulatory authorities may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after they have reviewed and commented on the design for our clinical trials.

Our product development costs will increase if we experience delays in clinical testing or marketing approvals. We do not know whether any of our clinical trials will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates and may allow our competitors to bring products to market before we do, potentially impairing our ability to successfully commercialize our product candidates and harming our business and results of operations. Any delays in our clinical development programs may adversely affect our business, results of operations and financial condition.

In addition, the FDA's and comparable foreign regulatory authorities' policies with respect to clinical trials may change and additional government regulations may be enacted. For instance, the regulatory landscape related to clinical trials in the European Union, or EU, recently evolved. The EU Clinical Trials Regulation, or

CTR, which was adopted in April 2014 and repeals the EU Clinical Trials Directive, became applicable on January 31, 2022. While the Clinical Trials Directive required a separate clinical trial application, or CTA, to be submitted in each EU member state, to both the competent national health authority and an independent ethics committee, the CTR introduces a centralized process and only requires the submission of a single application to all EU member states concerned. The CTR allows sponsors to make a single submission to both the competent authority and an ethics committee in each EU member state, leading to a single decision per EU member state. The assessment procedure of the CTA has been harmonized as well, including a joint assessment by all EU member states concerned, and a separate assessment by each EU member state with respect to specific requirements related to its own territory, including ethics rules. Each EU member state's decision is communicated to the sponsor via the centralized EU portal. Once the CTA is approved, clinical study development may proceed. The CTR includes a transition period. The extent to which ongoing clinical trials will be governed by the CTR varies. For clinical trials whose CTA was made under the Clinical Trials Directive before January 31, 2022, the Clinical Trials Directive will continue to apply on a transitional basis for three years. Additionally, sponsors could submit a clinical trial application under either the Clinical Trials Directive or the CTR until January 31, 2023 and, if authorized, those will be governed by the Clinical Trials Directive until January 31, 2025. By that date, all ongoing trials will become subject to the provisions of the CTR. Compliance with the CTR requirements by us and our third-party service providers, such as CROs, may impact our developments plans and may increase our operating costs.

The regulatory framework in the United Kingdom, or UK, in relation to clinical trials is derived from existing EU legislation (as implemented into UK law, through secondary legislation). On January 17, 2022, the UK Medicines and Healthcare products Regulatory Agency, or MHRA, launched an eight-week consultation on reframing the UK legislation for clinical trials. The consultation closed on March 14, 2022. The reframe aims to streamline clinical trials approvals, enable innovation, enhance clinical trials transparency, enable greater risk proportionality, and promote patient and public involvement in clinical trials. On March 21, 2023, the MHRA published the outcome of the consultation with its responses. The MHRA may aim for a partial alignment to the CTR although there may be partial divergence from the Regulation which is intended to maintain regulatory flexibility. While opting for regulatory flexibility may facilitate conduct of clinical trials in the UK, divergence from the CTR may increase the administrative burden for clinical trials conducted at sites in both the UK and the EU. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies governing clinical trials, our development plans may be impacted.

Preclinical development is uncertain. Our preclinical programs may experience delays or generate unfavorable data, and may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all, and any of these events would adversely affect our business, results of operations and financial condition.

Before we can commence clinical trials for any product candidate in our preclinical programs, we must complete extensive preclinical studies that support our planned INDs in the United States, or similar applications in other jurisdictions. Our preclinical studies may not be completed on a timely basis and have an unfavorable outcome, and the FDA and comparable foreign regulatory authorities may not accept our proposed clinical programs, or the outcome of our preclinical studies may not ultimately support the further development of our preclinical programs. As a result, we may not be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all, and submission of INDs or similar applications may not result in the FDA or comparable foreign regulatory authorities allowing clinical trials to begin.

Our product candidates are based on a novel approach to the treatment of cancer, which makes it difficult to predict the time and cost of product candidate development.

We have concentrated substantially all of our recent research and development efforts on product candidates based on our Selected TIL approach, and our future success depends largely on the successful development of these approaches. Any development problems we experience in the future may cause significant delays or

unanticipated costs, and such development problems may not be solved. Should we encounter development problems, including unfavorable preclinical or clinical trial results, the FDA and comparable foreign regulatory authorities may refuse to authorize us to conduct additional clinical trials, and even if they do, they may not approve our product candidates, or may require additional information, tests, or trials, which could significantly delay product development and significantly increase our research and development costs. Moreover, even if we are able to provide to the FDA or comparable foreign regulatory authorities the requested information or trials, the FDA or comparable foreign regulatory authorities may not accept them and may not approve our product candidates. We also may experience delays in developing a sustainable, reproducible and scalable manufacturing process, or developing or qualifying and validating product release assays, other testing and manufacturing methods, and our equipment and facilities in a timely manner. This may prevent us from completing our clinical trials or commercializing our product candidates on a timely or profitable basis, if at all.

In addition, the clinical trial requirements of the FDA and comparable foreign regulatory authorities and the criteria these regulators use to evaluate the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of the potential products. The FDA and comparable foreign regulatory authorities have limited experience with the approval of Selected TIL immunotherapies. There are no TIL therapies that have received FDA approval to date.

The manufacture of our product candidates is complex, and we may encounter difficulties in production, particularly with respect to process development, quality control, or scaling-up of any future manufacturing capabilities. If we, or any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our product candidates for clinical trials or our products for patients, if approved, could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure.

Our product candidates are biologics and the process of manufacturing our product candidates is complex, highly regulated and subject to multiple risks. The manufacture of our product candidates involves complex processes, including harvesting tumor fragments from patients, isolating the T-cells from the tumor fragments, multiplying the T-cells to obtain the desired dose, and ultimately infusing the T-cells back into a patient. As a result of the complexities, the cost to manufacture biologics is generally higher than traditional small molecule chemical compounds, and the manufacturing process is less reliable and is more difficult to reproduce. Our manufacturing process is susceptible to product loss or failure due to logistical issues associated with the collection of tumor fragments, or starting material, from the patient, shipping such material to the manufacturing site, shipping the final product back to the patient, and infusing the patient with the product, manufacturing issues associated with the differences in patient starting material, interruptions in the manufacturing process, contamination, equipment failure, assay failures, improper installation or operation of equipment, vendor or operator error, inconsistency in cell growth, meeting pre-specified release criteria, and variability in product characteristics. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions. If for any reason we lose a patient's starting material, or later developed product at any point in the process, or if any product does not meet the applicable specifications, the manufacturing process for that patient will need to be restarted, including resection of the proper amount of tumor fragment and the resulting delay may adversely affect that patient's outcome. If microbial, viral, environmental or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

Because our product candidates are manufactured specifically for each individual patient, we will be required to maintain a chain of identity with respect to the patient's tumor as it moves from the patient to the manufacturing facility, through the manufacturing process, and back to the patient. Maintaining such a chain of identity is difficult and complex, and failure to do so could result in adverse patient outcomes, loss of product, or regulatory action including withdrawal of our products from the market. Further, as product candidates are developed through preclinical studies to late-stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods, are altered along the

way to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives, and any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials or otherwise necessitate the conduct of additional studies.

As a result of these challenges, we may experience delays in our clinical development and/or commercialization plans, if approved. Furthermore, we may ultimately be unable to reduce the cost of goods for our product candidates to levels that will allow for an attractive return on investment if and when those product candidates are commercialized.

The manufacture of cell therapy products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of cell therapy products often encounter difficulties in production, particularly in scaling up initial production. These problems include difficulties with production costs and yields, quality control, including stability of the product candidate and quality assurance testing, shortages of qualified personnel, and compliance with strictly enforced federal, state, local and foreign regulations.

Externally, to support both TIDAL-01 and TIDAL-02, we have formed deep partnerships across a global network of contract development and manufacturing organizations, or CDMOs, that specialize in bioprocess development, testing, cGMP manufacturing, formulation and filling, packaging, controlled temperature storage, and distribution. For TIDAL-01, this includes a close partnership with the Cell Therapy Facility at Moffitt Cancer Center, responsible for cGMP manufacturing, testing, release, and distribution of Selected TIL to the clinical investigators at Moffitt under our investigator sponsored clinical trial. We have separate partnerships, fully controlled and supervised by us, for the sequencing and peptide manufacturing portions of the TIDAL-01 manufacturing process. In parallel, we have completed a technology transfer of the TIDAL-01 Selected TIL manufacturing process to a U.S.-based CDMO, Charles River Laboratories. Any problems or delays we, Moffitt or our CDMOs experience in preparing for commercial scale manufacturing of a product candidate or component may result in a delay in the FDA or comparable foreign regulatory authority approval of the product candidate or may impair our ability to manufacture commercial quantities or such quantities at an acceptable cost, which could result in the delay, prevention, or impairment of clinical development and commercialization of our product candidates, if approved, and could adversely affect our business.

Moreover, we may not succeed in maintaining our relationships with our current CDMOs or establishing relationships with additional or alternative CDMOs. Our product candidates may compete with other products and product candidates for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that are both capable of manufacturing for us and willing to do so. If our CDMOs should cease manufacturing for us, we would experience delays in obtaining sufficient quantities of our product candidates for clinical trials and, if approved, commercial supply. Further, our CDMOs may breach, terminate, or not renew its agreements with us. If we were to need to find alternative manufacturing facilities it would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. The commercial terms of any new arrangement could be less favorable than our existing arrangements and the expenses relating to the transfer of necessary technology and processes could be significant.

We are ultimately responsible for the manufacture of our product candidates. A failure to comply with these requirements may result in regulatory enforcement actions against our manufacturers or us, including fines and civil and criminal penalties, which could result in imprisonment, suspension or restrictions of production, injunctions, delay or denial of product approval or supplements to approved products, clinical holds or termination of clinical trials, warning or untitled letters, regulatory authority communications warning the public about safety issues with the biologic, refusal to permit the import or export of the products, product seizure, detention, or recall, operating restrictions, suits under the civil False Claims Act, corporate integrity agreements, consent decrees, or withdrawal of product approval.

Any of these challenges could delay completion of clinical trials, require bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidate, impair commercialization efforts, increase our cost of goods, and have an adverse effect on our business, results of operations and financial condition.

Cell-based therapies and biologics rely on the availability of reagents, specialized equipment, and other specialty materials, which may not be available to us on acceptable terms or at all. For some of these reagents, equipment, and materials, we rely or may rely on sole source vendors or a limited number of vendors, which could impair our ability to manufacture and supply our products.

Manufacturing our product candidates requires many reagents, which are substances used in our manufacturing processes to bring about chemical or biological reactions, and other specialty materials and equipment, some of which are manufactured or supplied by small companies with limited resources and experience to support commercial biologics production. We currently depend on a limited number of vendors for certain materials and equipment used in the manufacture of our product candidates. Some of these suppliers may not have the capacity to support clinical trials and commercial products manufactured under cGMPs by biopharmaceutical firms or may otherwise be ill-equipped to support our needs. We also do not have supply contracts with many of these suppliers and may not be able to obtain supply contracts with them on acceptable terms or at all. Accordingly, we may experience delays in receiving key materials and equipment to support clinical or commercial manufacturing.

For some of these reagents, equipment, and materials, we rely and may in the future rely on sole source vendors or a limited number of vendors. An inability to continue to source product from any of these suppliers, which could be due to a number of issues, including regulatory actions or requirements affecting the supplier, adverse financial or other strategic developments experienced by a supplier, labor disputes or shortages, unexpected demands, or quality issues, could adversely affect our ability to satisfy demand for our product candidates, which could adversely and materially affect our product sales and operating results or our ability to conduct clinical trials, either of which could significantly harm our business.

Changes in product candidate manufacturing, formulation or analytical methods may result in additional costs or delay, which could adversely affect our business, results of operations and financial condition.

As product candidates are developed through preclinical studies to later-stage clinical trials towards approval and future commercialization, it is common that various aspects of the development program, such as manufacturing methods, formulation or analytical methods, are altered throughout the development process in an effort to optimize processes and results. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials or utilizing different analytical methods. Such changes also may require additional testing, or notification to, or authorization by the FDA or a comparable foreign regulatory authority. This could delay completion of clinical trials, require the conduct of bridging clinical trials or studies, require the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and/or jeopardize our ability to commence product sales and generate revenue.

Use of our product candidates could be associated with side effects, adverse events or other properties or safety risks, which could cause us to suspend or discontinue clinical trials, abandon a product candidate, delay or preclude approval, prevent market acceptance, limit the commercial profile of an approved label or result in other significant negative consequences that could severely harm our business, results of operations and financial condition.

Before obtaining regulatory approvals for the commercial sale of any of our products, we must demonstrate through lengthy, complex and expensive preclinical studies and clinical trials that our current product candidates, including our lead product candidates, and any future product candidate are both safe, pure and potent, or

effective for use in such product candidate's target indication. Clinical testing is expensive, can take many years to complete and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. In addition, initial success in clinical trials may not be indicative of results obtained when such trials are completed. There is typically an extremely high rate of attrition from the failure of product candidates proceeding through clinical trials. Product candidates in later stages of clinical trials may fail to generate desired safety and efficacy data despite having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical and biotechnology industries have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most product candidates that commence clinical trials are never approved and there can be no assurance that any of our clinical trials will ultimately be successful or support further clinical development of our current product candidates or any of our future product candidates or ultimately their approval.

Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or comparable foreign regulatory authorities. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, results of operations and financial condition significantly.

If our product candidates are associated with undesirable side effects or have unexpected characteristics in preclinical studies or clinical trials we may need to interrupt, delay or abandon their development or limit development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. Treatment-related side effects could also affect patient recruitment or the ability of enrolled subjects to complete the trial, or result in potential product liability claims. Any of these occurrences may prevent us from achieving or maintaining market acceptance of the affected product candidate and may harm our business, results of operations and financial condition significantly.

Patients in our ongoing and planned clinical trials may in the future suffer significant adverse events or other side effects not observed in our preclinical studies or previous clinical trials. In addition, if our product candidates are used in combination with other therapies, our product candidates may exacerbate adverse events associated with the therapy. Patients treated with our product candidates may also be undergoing surgical, radiation or chemotherapy treatments, which can cause side effects or adverse events that are unrelated to our product candidate, but may still impact the success of our clinical trials. The inclusion of critically ill patients in our clinical trials may result in deaths or other adverse medical events due to other therapies or medications that such patients may be using or due to the gravity of such patients' illnesses.

If significant adverse events or other side effects are observed in any of our current or future clinical trials, we may have difficulty recruiting patients to the clinical trials, patients may drop out of our trials, or we may be required to abandon the trials or our development efforts of that product candidate altogether. We, the FDA, other comparable foreign regulatory authorities or an IRB or ethics committee may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential therapeutics developed in the biotechnology industry that initially showed therapeutic promise in early-stage trials have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude the product candidate from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance due to its tolerability versus other therapies. Any of these developments could materially harm our business, results of operations and financial condition.

Additionally, if any of our product candidates receives regulatory approval, and we or others later identify undesirable side effects caused by such product, a number of potentially significant negative consequences could result. For example, the FDA could require us to adopt a Risk Evaluation and Mitigation Strategy, or REMS, to ensure that the benefits of treatment with such product candidate outweigh the risks for each potential patient, which may include, among other things, a communication plan to health care practitioners, patient education, extensive patient monitoring or distribution systems and processes that are highly controlled, restrictive and more costly than what is typical for the industry. Other potentially significant negative consequences include that:

- we may be forced to suspend marketing of that product, or decide to remove the product from the marketplace, if approved;
- regulatory authorities may withdraw or change their approvals of that product;
- regulatory authorities may require additional warnings on the label or limit access of that product to selective specialized centers with additional safety reporting and with requirements that patients be geographically close to these centers for all or part of their treatment;
- we may be required to create a medication guide outlining the risks of the product for patients, or to conduct post-marketing studies;
- we may be required to change the way the product is administered;
- we could be subject to fines, injunctions, or the imposition of criminal or civil penalties, or be sued and held liable for harm caused to subjects or patients; and
- the product may become less competitive, and our reputation may suffer.

Any of these events could diminish the usage or otherwise limit the commercial success of our product candidates and prevent us from achieving or maintaining market acceptance of the affected product candidate, if approved by applicable regulatory authorities.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected, which could adversely affect our business, results of operations and financial condition.

We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. The enrollment of patients depends on many factors, including:

- the patient eligibility and exclusion criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to trial sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will withdraw from the trials before completion.

In addition, our clinical trials will compete with other clinical trials for patient participation for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. For example, we will compete with various other cancer therapies, including combinations studies, and as of December 2021, there were over

4,600 combination studies of checkpoint inhibitors underway, including with monoclonal antibodies, cell therapies, cancer vaccines and other therapies. Public perception of TIL-based immunotherapies also may adversely influence willingness of subjects to participate in clinical trials. Furthermore, because the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such sites.

Further, if we implement improvements to our manufacturing process, we may decide to slow or limit enrollment while we are implementing such improvements. While we would expect such implementation to only be temporary, any resulting enrollment delays may adversely affect our business, results of operations and financial condition.

Delays in patient enrollment may result in increased costs or may affect the timing or outcome of our future clinical trials, which could prevent completion of these trials and adversely affect our business, results of operations and financial condition.

Interim, "top-line," and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary or topline data from our clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Topline and preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the topline or preliminary data we previously published. As a result, topline and preliminary data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our clinical trials. Interim data from these trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as subject enrollment continues and more data become available. Adverse differences between interim data and top-line, preliminary, or final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock.

Further, others, including regulatory authorities, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product, and our company in general. In addition, the information we choose to publicly disclose regarding a particular clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure. If the interim, topline, or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for and commercialize our product candidates may be harmed, which could harm our business, results of operations or financial condition.

Due to our limited resources and access to capital, we must prioritize development of certain programs and product candidates; these decisions may prove to be wrong and may adversely affect our business, results of operations and financial condition.

Because we have limited financial and human resources, we intend to initially focus on research programs and product candidates for a limited set of indications. For example, we are initially focused on the development of our lead Selected TIL product candidate TIDAL-01 in breast cancer, CRC, uveal melanoma and both

cutaneous and non-cutaneous melanomas. Because TIL therapy is a relatively new and expanding area of novel therapeutic interventions, there are many uncertainties related to development, marketing, reimbursement and the commercial potential for our product candidates. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential or a greater likelihood of success. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

We may for a number of reasons fail to identify viable new product candidates for clinical development from our current or future research programs. If we fail to identify additional potential product candidates, our business, results of operations and financial condition could be adversely affected.

Research programs to pursue the development of our existing and planned product candidates for additional indications and to identify new product candidates and disease targets require substantial technical, financial and human resources whether they are ultimately successful or not. Our research programs may initially show promise in identifying potential indications and/or product candidates, yet fail for a number of reasons to yield results for clinical development, including:

- the research methodology used may not be successful in identifying potential indications and/or product candidates;
- potential product candidates may, after further study, be shown to have harmful adverse effects or other characteristics that indicate they are unlikely to be effective products against the indicated disease; or
- it may take greater human and financial resources than we will possess to identify additional therapeutic opportunities for our product candidates or to develop suitable potential product candidates through internal research programs, thereby limiting our ability to develop, diversify and expand our product portfolio.

Accordingly, we may never be able to identify additional therapeutic opportunities for our product candidates or to develop suitable potential product candidates through internal research programs, which could materially adversely affect our future growth and prospects. We may focus our efforts and resources on potential product candidates or other potential programs that ultimately prove to be unsuccessful.

We may seek orphan drug designation for our product candidates, but we may be unable to obtain such designation or to obtain or maintain the benefits associated with orphan drug designation, including market exclusivity, which may cause our product revenue, if any, to be reduced.

Regulatory authorities in some jurisdictions, including the United States and the EU, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a biologic as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States, or a patient population of 200,000 or more in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States.

In the United States, orphan drug designation entitles a party to financial incentives such as tax advantages and user fee waivers. Opportunities for grant funding toward clinical trial costs may also be available for clinical trials of drugs or biologics for rare diseases, regardless of whether the biologics are designated for the orphan use. In addition, if a biologic with an orphan drug designation subsequently receives the first marketing approval for the disease or condition for which it has such designation, the product is entitled to a seven-year period of marketing exclusivity, which precludes the FDA from approving another marketing application for the same drug for the same disease or condition for that time period, except in limited circumstances. If our competitors are able to obtain orphan drug exclusivity prior to us, for products that constitute the “same drug” and treat the same

diseases or conditions as our product candidates, we may not be able to have competing products approved by the applicable regulatory authority for a significant period of time.

In the EU, the European Commission, following a related opinion of the EMA Committee for Orphan Medicinal Products, may orphan drug designation for medicinal products to be developed for the diagnosis, prevention or treatment of diseases that are life-threatening or chronically debilitating, for which either no satisfactory method of diagnosis, prevention, or treatment exists, or if such method exists, the medicinal product is of significant benefit to those affected by such condition. To benefit from such designation, either the prevalence of the condition must not be more than five in 10,000 people across the EU or, if more prevalent, it must be unlikely that the marketing of the medicinal product would generate sufficient returns to justify the investment needed for its development.

If a drug with orphan designation subsequently receives the first marketing approval for the indication for which it has such designation, the drug may be entitled to a period of marketing exclusivity. This precludes the FDA or the EMA from accepting another marketing application for the same drug or, in the case of the EMA, a similar drug, for the same indication during this time period. The applicable period is seven years in the United States and ten years in the EU. The period which may be extended by six months in the United States and two years in the EU for products that have complied with the respective regulatory agency's agreed upon pediatric investigation plan. The exclusivity period in the EU can be reduced to six years if at the end of the fifth year a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable that market exclusivity is no longer justified.

We may seek orphan designation for certain of our product candidates. However, we may be unsuccessful in obtaining orphan drug designation for these and may be unable to maintain the benefits associated with orphan drug designation, even if we do obtain such designation. Even if we obtain orphan drug designation and obtain orphan drug exclusivity for any of our product candidates, that exclusivity may not effectively protect those product candidates from competition because different products can be approved for the same disease or condition. Even after an orphan drug is granted orphan exclusivity and approved, the FDA can subsequently approve a later application for the same drug for the same disease or condition before the expiration of the seven-year exclusivity period if the FDA concludes that the later drug is clinically superior in that it is shown to be safer in a substantial portion of the target populations, more effective or makes a major contribution to patient care. Similarly, the European Commission can approve a similar drug for the same therapeutic indication during the 10-year-exclusivity if we consent thereto, if we are unable to supply sufficient quantities of the drug in the EU, or if the similar product is demonstrated to be safer, more effective or otherwise clinically superior to ours. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan-drug-exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to manufacture sufficient quantities of the product to meet the needs of patients with the rare disease or condition. The exclusivity period in the EU can be reduced to six years if at the end of the fifth year a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

We may attempt to secure approval from the FDA or comparable foreign regulatory authorities through the use of accelerated approval pathways. If we are unable to obtain such approval, we may be required to conduct additional clinical trials beyond those that we contemplate, which could increase the expense of obtaining, and delay the receipt of, necessary marketing approvals. Even if we receive accelerated approval from the FDA or comparable foreign regulatory authorities, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA or comparable foreign regulatory authorities may seek to withdraw accelerated approval.

We may in the future seek an accelerated approval for our one or more of our product candidates. Under the accelerated approval program, the FDA may grant accelerated approval to a product candidate designed to treat a

serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that the product candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as irreversible morbidity or mortality. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the product's clinical benefit. If such post-approval studies fail to confirm the product's clinical benefit, the FDA may withdraw its approval.

In the EU, under the centralized procedure, the EMA's Committee for Medicinal Products for Human Use may perform an accelerated assessment of a marketing authorization application. Applicants requesting an accelerated assessment procedure must justify that the product candidate is expected to be of major public health interest, particularly from the point of view of therapeutic innovation.

Prior to seeking accelerated approval for any of our product candidates, we intend to seek feedback from the FDA or similar foreign regulatory authorities and will otherwise evaluate our ability to seek and receive accelerated approval. There can be no assurance that after our evaluation of the feedback and other factors we will decide to pursue or submit a BLA or similar application for accelerated approval or any other form of expedited development or review. Similarly, there can be no assurance that after subsequent FDA or similar foreign regulatory authorities' feedback we will continue to pursue or apply for accelerated approval or any other form of expedited development or review, even if we initially decide to do so. Furthermore, if we decide to submit an application for accelerated approval or other expedited development or review for our product candidates, there can be no assurance that such submission or application will be accepted or that any expedited development or review will be granted on a timely basis, or at all. The FDA or other comparable foreign regulatory authorities could also require us to conduct further studies prior to considering our application or granting approval of any type. A failure to obtain accelerated approval or any other form of expedited development or review for our product candidate would result in a longer time period to commercialization of such product candidate, if any, could increase the cost of development of such product candidate, and could harm our competitive position in the marketplace.

The FDA and other regulatory authorities actively enforce the laws and regulations prohibiting the promotion of off-label uses.

If any of our product candidates are approved and we are found to have improperly promoted off-label uses of those products, we may become subject to significant liability. The FDA and other foreign regulatory authorities strictly regulate the promotional claims that may be made about prescription products, such as our product candidates, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other foreign regulatory authorities as reflected in the product's approved labeling. If we receive marketing approval for a product candidate, physicians may nevertheless prescribe it to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The U.S. federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The government has also required companies to enter into consent decrees or imposed permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

Risks Related to the Biotechnology Industry

We face significant competition and if we fail to compete effectively, our business, results of operations and financial condition could be adversely affected.

The biotechnology and pharmaceutical industries are characterized by intense competition, fierce defense of intellectual property and rapidly advancing technologies. Our competitors may be able to develop other therapies or drugs that are able to achieve similar or better results than our product candidates. Our competitors include major pharmaceutical, specialty pharmaceutical and existing or emerging biotechnology companies, academic institutions, governmental agencies, and public and private research institutions. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations and well-established sales forces, and other biopharmaceutical companies may compete by establishing collaborative arrangements with these large companies. Smaller or early-stage companies also may prove to be significant competitors, particularly as they develop novel approaches to treating disease indications that our product candidates also are focused on treating. Established biotechnology companies may also invest heavily to accelerate discovery and development of novel therapeutics or to in-license novel therapeutics that could make the product candidates that we develop obsolete. Mergers and acquisitions in the biotechnology industry may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors, either alone or with collaborative partners, may succeed in developing, acquiring or licensing on an exclusive basis drug or biologic products that are more effective, safer, more easily commercialized or less costly than our product candidates or may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products. We believe the key competitive factors that will affect the development and commercial success of our product candidates are efficacy, safety, tolerability, reliability, durability, convenience of use, price and reimbursement.

We anticipate competing with other companies that are focused on treating disease indications that our product candidates also are focused on treating. A competitor may develop technologies focused on the same disease pathway as our technology or may focus on treating the targeted disease in a completely different manner. Our competitors may also seek and obtain patent rights to their technologies that are similar to ours, and such patent rights may in the future affect the direction of our product development or require us to negotiate a license to such patent rights. To the extent a new drug is developed by a competitor that is more efficacious than any product candidate developed by us, this could reduce or negate the need for our product candidate. In addition, while we believe our product candidates may be used in conjunction with existing or emerging standard of care in certain disease indications, as companies continue to improve upon existing standards of care, more efficacious drug therapies could become available, reducing or completely negating the benefit of our product candidates. Our competitors also may include companies that are or will be developing therapies for the same therapeutic areas that we are targeting within our early pipeline.

We face competition from segments of the pharmaceutical, biotechnology and other related markets that pursue the development of TIL or other cell therapies for the treatment of solid tumors. Our competitors include, among others:

- companies that are developing TIL therapies such as Iovance Biotherapeutics, Inc., Achilles Therapeutics plc, Instil Bio, Inc., KSQ Therapeutics, Inc., Lyell Immunopharma, Inc., Obsidian Therapeutics, Inc., Intima Bioscience, Inc. and others; and
- companies focused on CAR-T and TCR-T cell therapies for solid-tumors, such as Adaptimmune Therapeutics PLC, Adicet Bio, Inc., Alaunos Therapeutics, Inc., Atara Biotherapeutics, Inc., and Immatics N.V.

In addition, we are aware of other privately held biotechnology companies are evaluating neoantigen directed T cell approaches. Further, there are companies utilizing other cell-based approaches that may be

competitive to our product candidates. More effective small molecules, cancer vaccines and other approaches may be developed and used as first line or second line treatments, which would reduce the opportunity for our Selected TIL therapies. Furthermore, we also face competition more broadly across the oncology market for cost-effective and reimbursable cancer treatments.

The most common methods of treating patients with cancer are surgery, radiation, and drug therapy, including chemotherapy, hormone therapy, biologic therapy, such as monoclonal and bispecific antibodies, immunotherapy, cell-based therapy and targeted therapy, or a combination of any such methods. There are a variety of available drug therapies marketed for cancer. In many cases, these drugs are administered in combination to enhance efficacy. While our Selected TIL product candidates, if any are approved, may compete with these existing drugs and other therapies, to the extent they are ultimately used in combination with or as an adjunct to these therapies, our Selected TIL product candidates may not be competitive with them.

Even if we obtain regulatory approval of our product candidates, the availability and price of our competitors' products as well as limits on health insurance reimbursements for our product candidates could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances. We believe our ability to successfully compete will depend on our ability to rapidly develop new product candidates, manufacture product supply, successfully enroll patients in clinical trials, gain regulatory approval in target indications, establish collaborations, successfully market and commercialize, and secure and protect intellectual property rights.

Negative developments in the fields of immuno-oncology and TIL-based immunotherapy could damage public perception of our product candidates and adversely affect our business, results of operations and financial condition.

The commercial success of our product candidates will depend in part on public acceptance of the use of cancer immunotherapies and TIL-based immunotherapies. Adverse events in clinical trials of our product candidates or in clinical trials of others developing similar products and the resulting publicity, as well as any other negative developments in the field of immuno-oncology and TIL-based immunotherapy that may occur in the future, could result in a decrease in demand for any product candidates that we may develop. These events also could result in the suspension, discontinuation, or clinical hold of or modification to our clinical trials. If public perception is influenced by claims that the use of cancer immunotherapies and TIL-based immunotherapies is unsafe, whether related to our therapies or those of our competitors, our product candidates may not be accepted by the general public or the medical community and potential clinical trial subjects may be discouraged from enrolling in our clinical trials. As a result, we may not be able to continue or may be delayed in conducting our development programs.

Future negative developments in the field of immuno-oncology or the biotechnology industry also could result in greater governmental regulation, stricter labeling requirements and potential regulatory delays in the testing or approvals of our products. Any increased scrutiny could delay or increase the costs of obtaining marketing approval for any of our product candidates.

Even if a product candidate we develop receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success and any revenue that we generate from its sales could be limited.

We have never commercialized a product candidate for any indication. If our current product candidates, including our lead product candidates, or any future product candidate we develop receives marketing approval, whether as a single agent or in combination with other therapies, it may nonetheless fail to gain sufficient market

acceptance by physicians, patients, third-party payors, and others in the medical community. If the product candidates we develop do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of any of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the ability to offer our products, if approved, for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the ability to obtain sufficient third-party payor coverage and adequate reimbursement; and
- the prevalence and severity of any side effects.

If our product candidates, if approved, do not achieve an adequate level of market acceptance, our business, results of operations and financial condition may be adversely affected.

The size of the potential commercial opportunities for our product candidates is difficult to estimate and, if any of our assumptions are inaccurate, the actual markets for our product candidates may be smaller than our estimates.

The potential commercial opportunities for our product candidates are difficult to estimate and will depend in large part on the drugs with which our product candidates are co-administered and the success of competing therapies and therapeutic approaches. In particular, the commercial opportunity for TIL-based therapies is hard to estimate given that it is an emerging field with no approved TIL therapies. Our estimates of the potential commercial opportunities are predicated on many assumptions, which may include industry knowledge and publications, third-party research reports, and other surveys. The number of patients in the United States and other major markets and elsewhere may turn out to be lower than expected, patients may not be otherwise amenable to treatment with our product candidates or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our business, results of operations and financial condition. Although we believe that our internal assumptions are reasonable, these assumptions involve the exercise of significant judgment on the part of our management, are inherently uncertain, and their reasonableness has not been assessed by an independent source. If any of the assumptions proves to be inaccurate, the actual markets for our product candidates could be smaller than our estimates of the potential commercial opportunities, which could adversely affect our business, results of operations and financial condition.

Risks Related to Our Reliance on Third Parties

We have relied and expect to continue to rely on third parties to conduct certain aspects of our preclinical studies and to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties, meet expected deadlines, comply with regulatory requirements or terminate the relationship, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.

We depend upon on a significant number of third parties, including independent investigators to conduct certain aspects of our preclinical studies and our clinical trials under agreements with universities, medical institutions, CROs, strategic partners and others. Pursuant to our collaboration agreement with Moffitt, Moffitt's TIDAL-01 IND utilizes product candidate produced by Moffitt, which will be supporting the trial with dedicated cleanroom capacity and manufacturing priority at its on-site facility for TIDAL-01 production. We also utilize CROs to manage certain aspects of our studies, which are conducted at third party clinical sites by third party investigators.

We expect to need to negotiate budgets and contracts with such third parties, which may result in delays to our development timelines and increased costs. We will rely especially heavily on third parties over the course of our clinical trials, and, as a result, will have limited control over and limited visibility into their day-to-day activities, including with respect to their compliance with the clinical protocol. Nevertheless, we are responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with GCP requirements. Upon inspection, such regulatory authorities may determine that any of our clinical trials do not comply with the GCP requirements. If we or any of these third parties fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to suspend or terminate these trials or perform additional preclinical studies or clinical trials before approving our marketing applications if at all. In addition, our clinical trials must be conducted with biologic product produced under cGMP or similar foreign requirements and may require a large number of patients, whom we may not be able to recruit.

Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Any third parties conducting aspects of our preclinical studies or our current and future clinical trials will not be our employees and, except for remedies that may be available to us under our agreements with such third parties and the ability to enforce them, we cannot control whether or not they devote sufficient time and resources to our preclinical studies and clinical programs. These third parties also may have relationships with other commercial entities, including our competitors, for whom they also may be conducting clinical trials or other product development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the preclinical or clinical data they obtain is compromised due to the failure to adhere to our protocols or regulatory requirements or for other reasons, our development timelines, including clinical development timelines, may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our product candidates. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

If any of our relationships with these third-party CROs or other similar organizations expires or is terminated, we may not be able to enter into arrangements with alternative CROs or other third parties or to do so on commercially reasonable terms, if at all. Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a sometime lengthy transition period when a new CRO begins work. As a result, delays may occur, which can materially impact our ability to meet our desired development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not adversely affect our business, results of operations and financial condition.

Because we currently rely on third-party manufacturing and supply partners, our supply of research and development, preclinical and clinical development materials may become limited or interrupted or may not be of satisfactory quantity or quality.

We have relied and expect to continue to rely on third-party CDMOs to manufacture some of our preclinical product candidate supplies and to manufacture all of our clinical trial product supplies. Externally, to support TIDAL-01, we have formed deep partnerships across a global network of CDMOs that specialize in bioprocess development, testing, cGMP manufacturing, formulation and filling, packaging, controlled temperature storage, and distribution. For TIDAL-01, this includes a close partnership with the Cell Therapy Facility at Moffitt

Cancer Center, responsible for cGMP manufacturing, testing, release, and distribution of Selected TIL to the clinical investigators at Moffitt under our investigator sponsored clinical trial. We have separate partnerships, fully controlled and supervised by us, for the sequencing and peptide manufacturing portions of the TIDAL-01 manufacturing process. In parallel, we have completed a technology transfer of the TIDAL-01 Selected TIL manufacturing process to a U.S.-based CDMO, Charles River Laboratories.

Our preclinical and clinical development product supplies may be limited, interrupted, or not of satisfactory quality or may not continue to be available at acceptable prices. In particular, any replacement of our manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements; this could be particularly problematic where we rely on one CDMO for the manufacture of TIDAL-01.

Suppliers and manufacturers must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by regulatory authorities in order to comply with regulatory standards, such as cGMP or similar foreign requirements outside the United States. In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third-party, which we may not be able to do on reasonable terms, if at all. In some cases, the technical skills or technology required to manufacture our product candidates may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third-party and a feasible alternative may not exist. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to have another third-party manufacture our product candidates. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop product candidates in a timely manner or within budget. Moreover, changes to the manufacturer or manufacturing process may be subject to the prior review by the FDA and comparable foreign regulatory authorities, and the FDA and comparable foreign regulatory authorities may not authorize us to utilize product candidates produced by different manufacturers or, if we obtain approval, to commercialize such product produced by different manufacturers than those identified in our marketing applications.

To the extent that we have existing, or enter into future, manufacturing arrangements with third parties, we will depend on these third parties to perform their obligations in a timely manner consistent with contractual and regulatory requirements, including those related to quality control and assurance. If we are unable to obtain or maintain third-party manufacturing for product candidates, or to do so on commercially reasonable terms, if at all, we may not be able to develop and commercialize our product candidates successfully, if approved. Also, our or a third-party's failure to execute on our manufacturing requirements and comply with cGMPs or similar requirements could adversely affect our business in a number of ways, including:

- an inability to initiate or continue clinical trials of product candidates under development;
- delay in submitting regulatory applications, or receiving regulatory approvals, for product candidates;
- loss of the cooperation of an existing or future collaborator;
- subjecting third-party manufacturing facilities or our manufacturing facilities to additional inspections by regulatory authorities;
- requirements to cease distribution or to recall batches of our product candidates; and
- in the event of approval to market and commercialize a product candidate, an inability to meet commercial demands for our products.

Failure to maintain cGMPs or similar requirements can result in a contractor receiving FDA or comparable foreign regulatory authorities sanctions, which can impact our ability to operate, obtain or maintain regulatory approvals, or lead to delays in any clinical development programs or future commercialization of any approved products. In addition, any delay in contracting for fill and finish services, or failure of the contract manufacturer to perform the services as needed, may delay any clinical trials, registration and launches, which could adversely affect our business, results of operations and financial condition.

Our current and future collaborations are and will be important to our business. If we are unable to enter into new collaborations, or if these or any of our current collaborations are not successful, our business, results of operations and financial condition could be adversely affected.

A part of our strategy is to strategically evaluate and, as we deem appropriate, enter into additional partnerships in the future, including potentially with major biotechnology or pharmaceutical companies. For example, we entered into a collaboration agreement with Moffitt in connection for the development of TIDAL-01 and an alliance agreement with Moffitt in order to further expand our relationship and support our existing agreements with Moffitt. We have limited capabilities for product development and do not yet have any capability for commercialization. Accordingly, we may continue to enter into collaborations with other companies in the future to provide us with important technologies and funding for our programs and technology.

Our current collaborations and any future collaborations we enter into may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs or license arrangements based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as a strategic transaction that may divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products and product candidates if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates, if approved;
- collaborators may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- collaborators with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval, if any, may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or terminations of the research, development or future commercialization of product candidates, if approved, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;

- collaborators may seek to amend or modify the terms of any collaboration;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- if a collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate the development or future commercialization of any product candidate licensed to it by us; and
- collaborations may be terminated by the collaborator, and, if terminated, we could be required to raise additional capital to pursue further development or future commercialization of the applicable product candidates.

If our collaborations do not result in the successful discovery, development and future commercialization of product candidates, if approved, or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under such collaboration. All of the risks relating to product development, regulatory approval and future commercialization described in this “Risk Factors” section and elsewhere in this prospectus also apply to the activities of our therapeutic collaborators. Additionally, if one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our perception in the business and financial communities could be adversely affected.

We face significant competition in seeking appropriate partners for our product candidates, and the negotiation process is time-consuming and complex. In order for us to successfully partner our product candidates, potential partners must view these product candidates as economically valuable in markets they determine to be attractive in light of the terms that we are seeking and other available products for licensing by other companies.

Collaborations are complex, expensive and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator’s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator’s evaluation of a number of factors. Additionally, our collaboration agreements may contain non-competition provisions that could limit our ability to enter into strategic collaborations with future collaborators or restrict our ability to commercialize products on our own, if approved.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization, if approved, or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or future commercialization activities at our own expense. If we elect to increase our expenditures to fund development or future commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms, or at all. If we fail to enter into collaborations or do not have sufficient funds or expertise to undertake the necessary development and future commercialization activities, we may not be able to further develop our product candidates, bring them to market, if approved, and generate revenue from sales of drugs or continue to develop our technology, and our business, results of operations and financial condition could be adversely affected. Even if we are successful in our efforts to establish new strategic partnerships, the terms that we agree upon may not be favorable to us, and we may not be able to maintain such strategic partnerships if, for example, development or approval of a product candidate is delayed or sales of any approved product are disappointing. Any delay in entering into new strategic partnership

agreements related to our product candidates could delay the development and future commercialization of our product candidates, if approved, and reduce their competitiveness even if they reach the market.

Our reliance on third parties, such as manufacturers, may subject us to risks relating to manufacturing scale-up and may cause us to undertake substantial obligations, including financial obligations.

As we continue to grow and advance our product candidates through preclinical and clinical trials, we will need to scale our operations accordingly. For example, as we conduct clinical trials of our product candidates, we need to manufacture them in large quantities. We, or any manufacturing partners, may be unable to successfully increase the manufacturing capacity for any of our product candidates in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities. If we, or any manufacturing partners, are unable to successfully scale up the manufacture of our product candidates in sufficient quality and quantity, the development, testing, and clinical trials of that product candidate may be delayed or infeasible, and regulatory approval or commercial launch of any resulting product may be delayed or not obtained, which could adversely affect our business, results of operations and financial condition.

Risks Related to Government Regulation

The regulatory approval process for our product candidates in the United States and other jurisdictions is currently uncertain and will be lengthy, time-consuming and inherently unpredictable, and we may experience significant delays in the clinical development and regulatory approval, if any, of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products, including biologics like immunotherapies and, cell therapies, are subject to extensive regulation by the FDA in the United States and other regulatory authorities. We are not permitted to market any such products in the United States until we obtain approval of a BLA from the FDA or comparable marketing applications from comparable foreign regulatory authorities. We have not previously submitted a BLA to the FDA, or similar marketing application to comparable foreign authorities. A BLA and similar foreign applications must include extensive preclinical and clinical data and supporting information to establish that the product candidate is safe, pure and potent (or effective) for each desired indication. A BLA and similar foreign application also must include significant information regarding the chemistry, manufacturing and controls for the product, and the manufacturing facilities must complete a successful pre-license inspection.

The FDA also has the authority to require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the Advisory Committee, although not binding, could have a significant impact on our ability to obtain approval of any product candidates that we develop based on the completed clinical trials. Similar decisions may also be taken by foreign regulatory authorities and have similar impact.

In addition, clinical trials can be delayed or terminated for a variety of reasons, including delays or failures related to:

- obtaining regulatory authorization to begin a clinical trial, if applicable;
- the availability of financial resources to begin and complete the planned trials;
- reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining approval at each clinical trial site by an independent IRB or ethics committee;
- recruiting suitable patients in sufficient number to participate in a trial in a timely manner;
- having patients complete a trial or return for post-treatment follow-up;

- clinical trial sites deviating from trial protocol, not complying with GCP requirements or dropping out of a trial;
- addressing any patient safety concerns that arise during the course of a clinical trial;
- addressing any conflicts with new or existing laws or regulations;
- our ability to obtain and maintain patient consents;
- adding new clinical trial sites; or
- manufacturing qualified materials under cGMPs or similar regulations for use in clinical trials.

Patient enrollment is a significant factor in the timing of clinical trials and is affected by many factors. Further, a clinical trial may be suspended or terminated by us, the IRBs or ethics committees for the institutions in which such trials are being conducted, or the FDA or comparable foreign regulatory authorities, or recommended for suspension or termination by the DSMB for such trial, due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or comparable foreign regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, the commercial prospects for our product candidates will be adversely affected, and our ability to generate product revenue will be delayed or terminated. In addition, any delays in completing any clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

We may fail to obtain regulatory approval of our product candidates.

The general approach for FDA and equivalent foreign approval of a new biologic is to obtain dispositive data from two well-controlled, Phase 3 clinical trials of the relevant biologic in the relevant patient population. Phase 3 clinical trials typically involve hundreds of patients, have significant costs and take years to complete.

Our clinical trials results may not support approval. In addition, our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that our product candidates are safe and effective for any of their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or comparable foreign regulatory authorities to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and

- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

In addition, the FDA and comparable foreign regulatory authorities may change their approval policies and new regulations may be enacted, which could delay or prevent our ability to obtain approval. If any of our product candidates fail to achieve regulatory approval due to the above factors, or otherwise, any such failure would adversely affect our business, results of operations and financial condition.

Our relationships with healthcare providers and physicians and third-party payors may be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors in the United States and elsewhere play a primary role in the recommendation and prescription of pharmaceutical products. Our current and future arrangements with healthcare providers, third-party payors and customers can expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, which may constrain the business or financial arrangements and relationships through which we research, and if approved, sell, market and distribute our products. In particular, the research of our product candidates, as well as the promotion, sales and marketing of our product candidates is subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials. The applicable federal, state and foreign healthcare laws and regulations laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity can be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate it. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers, and formulary managers on the other;
- the federal civil and criminal false claims laws, including the federal False Claims Act or FCA, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, false or fraudulent claims for payment to, or approval by Medicare, Medicaid, or other federal healthcare programs, knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim or an obligation to pay or transmit money to the federal government, or knowingly and improperly avoiding or decreasing or concealing an obligation to pay money to the federal government. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government healthcare programs if they are deemed to “cause” the submission of false or fraudulent claims. In addition, a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA. The FCA also permits a private individual acting as a “whistleblower” to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent

pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (*e.g.*, public or private), and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity can be found guilty of violating the health care fraud statute under HIPAA without actual knowledge of the statute or specific intent to violate it;

- the federal Physician Payments Sunshine Act and its implementing regulations, which require some manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the United States Department of Health and Human Services, or HHS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician practitioners (such as physician assistants and nurse practitioners), and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and may be broader in scope than their federal equivalents; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state and local laws that require the registration of pharmaceutical sales representatives.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform. Federal, state and foreign enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions, significant fines and penalties and settlements in the healthcare industry. Ensuring business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and may divert our management's attention from the operation of our business.

It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in federal and state funded healthcare programs, contractual damages and the curtailment or restricting of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws. Any action for violation of these laws, even if successfully defended, could cause us to incur significant legal expenses and divert management's attention from the operation of our business. Prohibitions or restrictions on sales or withdrawal of future marketed products could adversely affect our business, results of operations and financial condition.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our product candidates in other jurisdictions.

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, while a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a product candidate, or comparable regulatory authorities in foreign jurisdictions also must approve the manufacturing, marketing and promotion of the product candidate in those jurisdictions. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In some jurisdictions outside the United States a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products also is subject to approval.

We also may submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed, which could adversely affect our business, results of operations and financial condition.

Even if we receive regulatory approval of any product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense, and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

If any of our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post- marketing studies and submission of safety, efficacy and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. In addition, we will be subject to continued compliance with cGMPs and similar requirements outside the United States and GCP requirements for any clinical trials that we conduct post-approval.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs or similar regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMPs or similar requirements and adherence to commitments made in any BLA, other marketing application, and previous responses to inspection observations. Accordingly, we and others with which we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 (post-approval) clinical trials and surveillance to monitor the safety and efficacy of the product candidate. The FDA or comparable foreign regulatory authorities may also require a REMS program as a condition of approval of our product candidates or similar risk management measures, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable

foreign regulatory authority approves our product candidates, we will need to comply with requirements of any such programs including submissions of safety and other post-marketing information and reports and registration.

The FDA or comparable foreign regulatory authorities may impose consent decrees or withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information or a "black box" warning; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA or comparable foreign regulatory authorities to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;
- product seizure or detention or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

The FDA and comparable foreign regulatory authorities strictly regulate marketing, labeling, advertising, and promotion of products that are placed on the market. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and comparable foreign regulatory authorities actively enforce the laws and regulations prohibiting the promotion of off-label uses and a company that is found to have improperly promoted off-label uses may be subject to significant civil, criminal and administrative liability. The policies of the FDA and comparable regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and our business, results of operations and financial condition could be adversely affected.

Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, if approved, which could make it difficult for us to sell any product candidates profitably.

The success of our product candidates, if approved, depends on the availability of coverage and adequate reimbursement from third-party payors. We cannot be certain that coverage and reimbursement will be available for, or accurately estimate the potential revenue from, our product candidates or assure that coverage and reimbursement will continue to be available for any product that we may develop that receives coverage and adequate reimbursement from one or more third-party payors. Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Accordingly, coverage and adequate reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance.

Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs and treatments they will cover and the amount of reimbursement. Coverage and reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;

- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors. As a result, obtaining coverage and reimbursement approval of a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our products on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate for us to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Additionally, third-party payors may not cover, or provide adequate reimbursement for, long-term follow-up evaluations required following the use of product candidates. Patients are unlikely to use our product candidates unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our product candidates. There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved products. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates. In addition, companion diagnostic tests require coverage and reimbursement separate and apart from the coverage and reimbursement for their companion pharmaceutical or biological products. Similar challenges to obtaining coverage and reimbursement, applicable to pharmaceutical or biological products, will apply to companion diagnostics.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. There has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the federal level, in July 2021, the Biden administration released an executive order, “Promoting Competition in the American Economy,” with multiple provisions aimed at prescription drugs. In response to President Biden’s executive order, on September 9, 2021, HHS released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue as well as potential administrative actions HHS can take to advance these principles. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

We expect to experience pricing pressures in connection with the sale of all of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, cost containment initiatives and additional legislative changes.

Ongoing healthcare legislative and regulatory reform measures may adversely affect our business, results of operations and financial condition.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (1) changes to our manufacturing arrangements; (2) additions or modifications to product labeling; (3) the recall or discontinuation of our products; (4) post-marketing approvals or compliance programs or (5) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect our business, results of operations and financial condition.

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, was passed by Congress, which substantially changes the way health care is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA, among other things, subjected biological products to potential competition by lower-cost biosimilars, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations, established annual fees and taxes on manufacturers of certain branded prescription drugs, and created a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D.

Since its enactment, certain provisions the ACA have been subject to executive, judicial and congressional challenges. On June 17, 2021, the U.S. Supreme Court dismissed the most recent challenge to the ACA on procedural grounds that argued the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress. Thus, the ACA will remain in effect in its current form. Further, prior to the U.S. Supreme Court ruling, President Biden issued an executive order that initiated a special enrollment period from February 15, 2021 through August 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructed certain governmental authorities to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. On August 16, 2022, President Biden signed the Inflation Reduction Act of 2022, or IRA, into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. The IRA also eliminates the "donut hole" under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and through a newly established manufacturer discount program. It is unclear how other healthcare reform measures of the Biden administration, if any, will impact our business.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011, among other things included aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect on April 1, 2013, and, due to subsequent legislative amendments, will stay in effect through 2032 unless additional Congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers. Additionally, on March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024. Further, the IRA, among other things, (1) directs HHS to negotiate the price of certain single-source drugs and biologics covered under Medicare and (2) imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation. These provisions will take effect progressively starting in fiscal year 2023, although they may be subject to legal challenges. The IRA permits HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. HHS has and will continue to issue and update guidance as these programs are implemented. It is currently unclear how the IRA will be implemented but it is likely to have a significant effect on the pharmaceutical industry. Further, in response to the Biden administration's October 2022 executive order, on February 14, 2023, HHS released a report outlining three new models for testing by the Centers for Medicare & Medicaid Services, or CMS, Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future.

These laws, and future state and federal healthcare reform measures may be adopted in the future, any of which may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

EU drug marketing and reimbursement regulations may materially affect our ability to market and receive coverage for our products in the EU member states.

We intend to seek approval to market our product candidates in both the United States and in selected foreign jurisdictions. If we obtain approval in one or more foreign jurisdictions for our product candidates, we will be subject to rules and regulations in those jurisdictions. In some foreign countries, particularly those in the EU, the pricing of medicinal products is subject to governmental control and other market regulations which could put pressure on the pricing and usage of our product candidates. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. Some countries provide that products may be marketed only after a reimbursement decision has been taken by the relevant regulatory authority. In addition, market acceptance and sales of our product candidates will depend significantly on the availability of adequate coverage and reimbursement from third-party payors for our product candidates and may be affected by existing and future health care reform measures.

Much like the federal Anti-Kickback Statute prohibition in the United States, the provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the EU. The provision of benefits or advantages to physicians is governed by the national anti-bribery laws of EU member states. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians and healthcare organization in certain EU member states must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and/or approval by the physician’s employer, his or her competent professional organization and/or the regulatory authorities of the individual EU member states. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the EU member states. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

In addition, in most foreign countries, including the EU, the requirements governing drug pricing and reimbursement vary widely from country to country. For example, the EU provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. Reference pricing used by various EU member states and parallel distribution, or arbitrage between low-priced and high-priced EU member states, can further reduce prices. An EU member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. In some countries, we may be required to conduct a clinical study or other studies that compare the cost-effectiveness of any of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the EU do not follow price structures of the United States and generally prices tend to be significantly lower. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If pricing is set at unsatisfactory levels or if reimbursement of our products is unavailable or limited in scope or amount, our revenues from sales by us or our strategic partners and the potential profitability of any of our product candidates in those countries would be negatively affected.

In December 2021, Regulation No. 2021/2282 on Health Technology Assessment, or HTA, amending Directive 2011/24/EU, was adopted. This regulation which will apply from January 12, 2025 intends to boost

cooperation among EU member states in assessing health technologies, including new medicinal products, and providing the basis for cooperation at the EU level for joint clinical assessments in these areas. The regulation foresees a three-year transitional period and will permit EU member states to use common HTA tools, methodologies, and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the most potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities, identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU member states will continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technologies, and making decisions on pricing and reimbursement.

Disruptions at the FDA and other national and foreign government authorities caused by funding shortages or global health concerns, such as COVID-19, could hinder their ability to hire, retain or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA and comparable foreign regulatory authorities to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's and foreign regulatory authorities' ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's and comparable foreign regulatory authorities' ability to perform routine functions. Average review times at the FDA and comparable foreign regulatory authorities have fluctuated in recent years as a result. In addition, government funding of other government authorities that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other national and foreign authorities also may slow the time necessary for new biologics or modifications to approved biologics to be reviewed and/or approved by necessary government authorities, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory authorities, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the COVID-19 pandemic, in March 2020, the FDA announced its intention to postpone most inspections of foreign manufacturing facilities, and on March 18, 2020, the FDA temporarily postponed routine surveillance inspections of domestic manufacturing facilities. Subsequently, in July 2020, the FDA resumed certain on-site inspections of domestic manufacturing facilities subject to a risk-based prioritization system. The FDA utilized this risk-based assessment system to assist in determining when and where it was safest to conduct prioritized domestic inspections. Additionally, on April 15, 2021, the FDA began conducting voluntary remote interactive evaluations of certain drug manufacturing facilities and clinical research sites, among other facilities in circumstances where the FDA determines that such remote evaluation would be appropriate based on mission needs and travel limitations. In May 2021, the FDA outlined a detailed plan to move toward a more consistent state of inspectional operations, and in July 2021, the FDA resumed standard inspectional operations of domestic facilities. Since that time, the FDA has continued to monitor and implement changes to its inspectional activities to ensure the safety of its employees and those of the firms it regulates as it adapts to the evolving COVID-19 pandemic.

Regulatory authorities outside the United States have adopted similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Our product candidates for which we intend to seek approval as biologic products may face competition sooner than anticipated.

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product.

There is a risk that any of our product candidates approved as a biological product under a BLA would not qualify for the 12-year period of exclusivity or that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. If competitors are able to obtain marketing approval for biosimilars referencing our candidates, if approved, our products may become subject to competition from such biosimilars, with the attendant competitive pressure and potential adverse consequences.

Actual or perceived failures to comply with applicable data protection, privacy and security laws, regulations, standards and other requirements could adversely affect our business, results of operations, and financial condition.

The global data protection landscape is rapidly evolving, and we are or may become subject to numerous state, federal and foreign laws, requirements and regulations governing the collection, use, disclosure, retention, and security of personal information, such as information that we may collect in connection with clinical trials. Implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, and we cannot yet determine the impact future laws, regulations, standards, or perception of their requirements may have on our business. Any failure or perceived failure by us to comply with federal, state or foreign laws or regulations, our internal policies and procedures or our contracts governing our processing of personal information could result in negative publicity, government investigations and enforcement actions, claims by third parties and damage to our reputation, any of which could have a material adverse effect on our business, results of operation, and financial condition.

We may become subject to or affected by new or additional data protection laws and regulations and face increased scrutiny or attention from regulatory authorities. In the United States, HIPAA as amended by the Health Information Technology for Economic and Clinical Health Act, or collectively, HIPAA, imposes, among other things, certain standards relating to the privacy, security, transmission and breach reporting of individually identifiable health information. Most healthcare providers, including research institutions from which we obtain patient health information, are subject to privacy and security regulations promulgated under HIPAA. While we do not believe that we are currently acting as a covered entity or business associate under HIPAA and thus are not directly regulated under HIPAA, we could face substantial criminal penalties if we knowingly receive individually identifiable health information from a HIPAA-covered healthcare provider or research institution that has not satisfied HIPAA's requirements for disclosure of individually identifiable health information.

Certain states have also adopted comparable privacy and security laws and regulations. Such laws and regulations will be subject to interpretation by various courts and other governmental authorities, thus creating

potentially complex compliance issues for us and our future customers and strategic partners. For example, the California Consumer Privacy Act of 2018, or CCPA, went into effect on January 1, 2020. The CCPA creates individual privacy rights for California consumers and increases the privacy and security obligations of entities handling certain personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Further, the California Privacy Rights Act, or CPRA, generally went into effect on January 1, 2023 and significantly amends the CCPA and imposes additional data protection obligations on covered businesses, including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, and opt outs for certain uses of sensitive data. It also creates a new California data protection agency authorized to issue substantive regulations and could result in increased privacy and information security enforcement. Similar laws have passed in Virginia, Colorado, Utah, Iowa and Connecticut and have been proposed in other states and at the federal level, reflecting a trend toward more stringent privacy legislation in the United States. The enactment of such laws could have potentially conflicting requirements that would make compliance challenging. In the event that we are subject to or affected by HIPAA, the CCPA, the CPRA or other domestic privacy and data protection laws, any liability from failure to comply with the requirements of these laws could adversely affect our financial condition.

We are also or may become subject to rapidly evolving data protection laws, rules and regulations in foreign jurisdictions. For example, in Europe, the EU and the UK General Data Protection Regulations (respectively, the EU GDPR and UK GDPR; together, the GDPR) each impose strict requirements for processing the personal data of individuals within the European Economic Area, or EEA, and/or the UK. Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up to €20 million under the EU GDPR and £17.5 million under the UK GDPR or 4% of the annual global revenues of the noncompliant company, whichever is greater. In addition to these fines, supervisory authorities have extensive audit and inspection rights, and powers to order temporary or permanent bans on all or some processing of personal data carried out by noncompliant actors; the GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints, seek judicial remedies and obtain compensation for damages resulting from violations of the GDPR. We could be subject to potentially overlapping or divergent enforcement actions for certain actual or perceived violations. Among other requirements, the GDPR regulates transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States. In July 2020, the Court of Justice of the EU, or CJEU, limited how organizations could lawfully transfer personal data from the EU/EEA to the United States by invalidating the Privacy Shield for purposes of international transfers. To facilitate such transfers a new set of standard contractual clauses, or SCCs, was issued by the European Commission but these apply only to transfers of personal data outside the EEA under the EU GDPR. Organizations are now required to comply with onerous obligations to determine the additional measures that need to be implemented and maintained to supplement such safeguards to protect the transferred personal data effectively. In March 2022, the US and EU announced a new regulatory regime intended to replace the invalidated regulations; however, this new EU-US Data Privacy Framework has not been implemented beyond an executive order signed by President Biden on October 7, 2022 on Enhancing Safeguards for United States Signals Intelligence Activities. European court and regulatory decisions subsequent to the CJEU decision of July 2020 have taken a restrictive approach to international data transfers. As supervisory authorities issue further guidance on personal data export mechanisms, and/or start taking enforcement action, we could suffer additional costs, complaints and/or regulatory investigations or fines, and/or if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations. The GDPR may impose additional responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms, at significant cost and diversion of management attention, to ensure compliance with the new data protection rules. This may be onerous and adversely affect our business, results of operations and financial condition.

Although we work to comply with applicable laws, regulations and standards, our contractual obligations and other legal obligations, these requirements are evolving and may be modified, interpreted and applied in an inconsistent manner from one jurisdiction to another, and may conflict with one another or other legal obligations with which we must comply. Any failure or perceived failure by us or our employees, representatives,

contractors, consultants, collaborators, or other third parties to comply with such requirements or adequately address privacy and security concerns, even if unfounded, could result in additional cost and liability to us, damage our reputation, and adversely affect our business and results of operations.

Additional laws and regulations governing international operations could adversely affect our business, results of operations and financial condition.

If we further expand our operations outside of the United States, we must dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate. The Foreign Corrupt Practices Act, or the FCPA prohibits any U.S. individual or business from paying, offering, authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate and other related parties for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. If we expand our presence outside of the United States, it will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside of the United States, which could limit our growth potential and increase our research and development costs.

The failure to comply with laws governing international business practices may result in substantial civil and criminal penalties and suspension or debarment from government contracting. The U.S. Securities and Exchange Commission, or the SEC, also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

We are subject to certain U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations. We can face serious consequences for violations.

Among other matters, U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations, which are collectively referred to as Trade Laws, prohibit companies and their employees, agents, clinical research organizations, legal counsel, accountants, consultants, contractors, and other partners from authorizing, promising, offering, providing, soliciting, or receiving directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. Violations of Trade Laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences. We have direct or indirect interactions with officials and employees of government authorities or government-affiliated hospitals, universities, and other organizations. We also expect our non-U.S. activities to increase over time. We plan to engage third parties for clinical trials and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals, and we can be held liable for the corrupt or other illegal activities of our personnel, agents, or partners, even if we do not explicitly authorize or have prior knowledge of such activities.

Risks Related to Our Intellectual Property

Our success depends in part on our ability to protect our intellectual property. It is difficult and costly to protect our proprietary rights and technology, and we may not be able to ensure their protection.

As of May 2, 2023, we own or exclusively license 14 issued U.S. patents and 96 issued foreign patents in 21 countries. We currently own or exclusively license 13 pending U.S. patent applications, 8 U.S. provisional applications, and 121 pending foreign patent applications in 26 other countries. Our commercial success will depend in large part on obtaining and maintaining patent, trademark and trade secret protection of our proprietary technologies and our product candidates, their respective components, formulations, combination therapies, methods used to manufacture them and methods of treatment, as well as successfully defending these patents against third-party challenges. Our ability to stop unauthorized third parties from making, using, selling, offering to sell or importing our product candidates is dependent upon the extent to which we have rights under valid and enforceable patents that cover these activities. If we are unable to secure and maintain patent protection for any product or technology we develop, or if the scope of the patent protection secured is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to commercialize any product candidates we may develop may be adversely affected.

The patenting process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications in all jurisdictions at a reasonable cost or in a timely manner. Moreover, obtaining such protection in a timely manner, or at all, may be affected by factors or events beyond our control, such as a prolonged economic downturn, or global financial or political crises, whether or not related to the ongoing COVID-19 pandemic or the ongoing political unrest between Russia and the Ukraine. In addition, we may not pursue or obtain patent protection in all relevant markets. It also is possible that we will fail to identify and file on patentable aspects of our research and development output before it is too late to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach these agreements and disclose such results before a patent application is filed, thereby jeopardizing our ability to seek patent protection. If we delay in filing a patent application, and a competitor files a patent application on the same or a similar technology before we do, we may face a limited ability to secure patent rights. Or we may not be able obtain a patent on such technology at all. Even if we can patent the technology, we may be able to patent only a limited scope of the technology, and the limited scope may be inadequate to protect our product candidates, or to block competitor products or product candidates that are similar to ours. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from or license to third parties and are reliant on our licensors or licensees.

Composition of matter patents for biological and pharmaceutical product candidates often provide a strong form of intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. Method of use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products “off-label.” Although off-label prescriptions may infringe or contribute to the infringement of method of use patents, the practice is common and such infringement is difficult to prevent or prosecute.

Certain of our programs may involve combination therapies. Composition of matter and method of use patents directed to combination therapies may be subject to heightened patentability standards and, therefore, may be difficult to issue worldwide.

The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or in-license may fail to result in issued

patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries. Even if the patents do successfully issue, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. If the breadth or strength of protection provided by the patent applications we hold with respect to our product candidates is threatened, it could dissuade companies from collaborating with us to develop, and threaten our ability to commercialize, our product candidates. Further, if we encounter delays in our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced.

Since patent applications in the United States and most other countries are confidential for a period of time after filing, we may not have been the first to file any patent application related to our product candidates. Furthermore, for United States applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third-party or instituted by the United States patent office, or USPTO, to determine who was the first to invent any of the subject matter covered by the patent claims of our applications.

We may not be the first to invent the inventions covered by pending patent applications and, if we are not, we may be subject to priority disputes. We may be required to disclaim part or all of the term of certain patents or all of the term of certain patent applications. There may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim. There also may be prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim. No assurance can be given that if challenged, our patents would be declared by a court to be valid or enforceable or that even if found valid and enforceable, a competitor's technology or product would be found by a court to infringe our patents. We may analyze patents or patent applications of our competitors that we believe are relevant to our activities, and consider that we are free to operate in relation to our product candidates, but our competitors may achieve issued claims, including in patents we consider to be unrelated, which block our efforts or may potentially result in our product candidates or our activities infringing such claims. The possibility exists that others will develop products which have the same effect as our products on an independent basis which do not infringe our patents or other intellectual property rights, or will design around the claims of patents that we have had issued that cover our products.

Recent or future changes in patent-related case law and/or patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. For example, under the enacted Leahy-Smith America Invents Act, or America Invents Act, enacted in 2013, the United States moved from a "first to invent" to a "first-to-file" system. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. The America Invents Act includes a number of other significant changes to U.S. patent law, including provisions that affect the way patent applications are prosecuted, redefine prior art and establish a new post-grant review system. The effects of these changes are currently unclear as the USPTO only recently developed new regulations and procedures in connection with the America Invents Act and many of the substantive changes to patent law, including the "first-to-file" provisions, became effective in March 2013. In addition, the courts have yet to address many of these provisions and the applicability of the act and new regulations on specific patents discussed herein have not been determined and would need to be reviewed. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

Recent changes in European law have caused uncertainty regarding our European patent portfolios. In particular, in 2012, the European Patent Package, or EU Patent Package, regulations were passed with the goal of providing for a single pan-European Unitary Patent, and a new European Unified Patent Court, or UPC, for

litigation of European patents. The EU Patent Package was ratified in February 2023 and currently covers 17 member states. On June 1, 2023, all European patents, including those issued prior to ratification, will by default automatically fall under the jurisdiction of the UPC and allow for the possibility of obtaining pan-European injunctions, and further will be at risk of a central revocation proceeding at the UPC in participating UPC states. Under the EU Patent Package, patent holders are permitted to "opt out" of the UPC on a patent-by-patent basis during an initial seven-year period after the EU Patent Package is ratified, with the proviso that an "opt-out" is no longer available for EP patents for which a revocation has been initiated before the UPC. Owners of European patent applications who receive notice of grant after the EU Patent Package is ratified could, for the UPC contracting states, either obtain a Unitary Patent or validate the patent nationally and file an opt-out demand. The EU Patent Package may increase the uncertainties and costs surrounding the enforcement or defense of our issued European patents and pending applications. The full impact on future European patent filing strategy and the enforcement or defense of our issued European patents in member states and/or the UPC is not known.

Intellectual property rights do not necessarily address all potential threats to our business.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to make or use compounds or cells that are similar to the biological compositions of our product candidates but that are not covered by the claims of our patents;
- the active biological ingredients in our current product candidates will eventually become commercially available in biosimilar drug products, and no patent protection may be available with regard to formulation or method of use;
- we or our licensors, as the case may be, may fail to meet our obligations to the U.S. government in regards to any in-licensed patents and patent applications funded by U.S. government grants, leading to the loss of patent rights;
- we or our licensors, as the case may be, might not have been the first to file patent applications for the inventions we own or control;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our pending patent applications will not result in issued patents;
- it is possible that there are prior public disclosures that could invalidate our or our licensors' patents, as the case may be, or parts of our or their patents;
- it is possible that a court could find the disclosure of our owned or -in-licensed patents is not sufficient to support the scope of issued claims, thereby invalidating the claims;
- it is possible that others may circumvent our owned or in-licensed patents;
- it is possible that there are unpublished applications or patent applications maintained in secrecy that may later issue with claims covering our products or technology similar to ours;
- the laws of foreign countries may not protect our or our licensors', as the case may be, proprietary rights to the same extent as the laws of the United States;
- there may be significant pressure on the U.S. government and international governmental bodies to limit the scope of patent protection both inside and outside the United States for disease treatments that prove successful, as a matter of public policy regarding worldwide health concerns;
- our competitors might conduct research and development activities in the United States and other foreign countries that provide a safe harbor from patent infringement claims for certain research and

development activities, as well as in countries where we do not have patent rights and then use the information learned from such activities to develop competitive product candidates for sale in our major commercial markets;

- the claims of our owned or in-licensed issued patents or patent applications, if and when issued, may not cover our product candidates;
- our owned or in-licensed issued patents may not provide us with any competitive advantages, may be narrowed in scope, or be held invalid or unenforceable as a result of legal challenges by third parties;
- we may need to initiate litigation or administrative proceedings to enforce and/or defend our patent rights which will be costly whether we win or lose;
- the inventors of our owned or in-licensed patents or patent applications may become involved with competitors, develop products or processes which design around our patents, or become hostile to us or the patents or patent applications on which they are named as inventors;
- it is possible that our owned or in-licensed patents or patent applications omit individual(s) that should be listed as inventor(s) or include individual(s) that should not be listed as inventor(s), which may cause these patents or patents issuing from these patent applications to be held invalid or unenforceable;
- we have engaged in scientific collaborations in the past, and will continue to do so in the future. Such collaborators may develop adjacent or competing products to ours that are outside the scope of our patents;
- we may not develop additional proprietary technologies for which we can obtain patent protection;
- it is possible that product candidates or diagnostic tests we develop may be covered by third parties' patents or other exclusive rights; or
- the patents of others may have an adverse effect on our business, including if others obtain patents claiming subject matter similar to or improving that covered by our patents and patent applications.

Any difficulties we encounter in defending, or resulting inability to protect, our proprietary rights and technology, may adversely affect our business, results of operations and financial condition.

We depend on intellectual property licensed from third parties and termination of any of these licenses could result in the loss of significant rights, which could adversely affect our business, results of operations and financial condition.

We are dependent on patents, know-how and proprietary technology, both our own and licensed from others. Any termination of these licenses could result in the loss of significant rights and could harm our ability to commercialize our product candidates.

Disputes also may arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- the priority of invention of patented technology;

- our diligence obligations with respect to the use of the licensed technology in relation to our development and future commercialization of our product candidates, and what activities satisfy those diligence obligations; and
- the ownership of and rights to use inventions and know-how resulting from the joint or individual creation or use of intellectual property by our licensors and us and our partners.

In addition, certain of our current and future agreements with third parties may limit or delay our ability to consummate certain transactions, may impact the value of those transactions, or may limit our ability to pursue certain activities. For example, we may enter into license agreements that are not assignable or transferable, or that require the licensor's express consent in order for an assignment or transfer to take place. If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

We generally also are subject to all of the same risks with respect to protection of intellectual property that we license, as we are for intellectual property that we own, which are described in this "Risk Factors" section. If we or our licensors fail to adequately protect this intellectual property, our business, results of operations and financial condition could be adversely affected.

If we fail to comply with our obligations under our patent licenses with third parties, we could lose license rights that are important to our business, which could adversely affect our business, results of operations and financial condition.

We are a party to license agreements pursuant to which we in-license key patent and patent applications, know-how, trade secrets and data rights for our product candidates. These existing licenses impose on us various diligence, milestone payment, royalty, insurance and other obligations. If we fail to comply with these obligations, our licensors may have the right to terminate the license, in which event we would not be able to develop or market the products covered by such licensed intellectual property.

Our licensors retain certain rights under their agreements with us, including the right to use the underlying technology for noncommercial academic and research use, to publish general scientific findings from research related to the technology, and to make customary scientific and scholarly disclosures of information relating to the technology. It is difficult to monitor whether our licensors limit their use of the technology to these uses, and we could incur substantial expenses to enforce our rights to our licensed technology in the event of misuse.

We may also enter into license agreements with third parties under which we are a sublicensee. If our sublicensor fails to comply with its obligations under its upstream license agreement with its licensor, the licensor may have the right to terminate the upstream license, which may terminate our sublicense. If this were to occur, we would no longer have rights to the applicable intellectual property unless we are able to secure our own direct license with the owner of the relevant rights, which we may not be able to do on reasonable terms, or at all, which may impact our ability to continue to develop and commercialize our product candidates incorporating the relevant intellectual property.

We may have limited control over the maintenance and prosecution of these in-licensed patents and patent applications, activities or any other intellectual property that may be related to our in-licensed intellectual property. For example, such activities by these licensors may not have been or may not be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights. Our licensors may not successfully prosecute the patent applications to which we are licensed in a manner consistent with the best interests of our business. We have limited control over the manner in which our licensors initiate an infringement proceeding against a third-party infringer of the intellectual property rights, or defend certain of the intellectual property that is licensed to us. It is possible that the licensors' infringement proceeding or defense activities may be less vigorous than had we conducted them ourselves.

If we are unable to protect the confidentiality of our trade secrets, our business, results of operations and financial condition could be adversely affected.

In addition to patent and other intellectual property protection, we rely heavily upon know-how and trade secret protection, as well as non-disclosure agreements and invention assignment agreements with our employees, consultants and third parties, to protect our confidential and proprietary information, especially where we do not believe patent protection is appropriate or obtainable. Elements of our product candidates, including processes for their preparation and manufacture, may involve proprietary know-how, information, or technology that is not covered by patents and that may not be patentable, and thus for these aspects we may consider trade secrets and know-how to be our primary intellectual property. We may also rely on trade secret protection as temporary protection for concepts that may be included in a future patent filing. In addition to contractual measures, we try to protect the confidential nature of our proprietary information using physical and technological security measures. Such measures may not, for example, in the case of misappropriation of a trade secret by an employee or third-party with authorized access, provide adequate protection for our proprietary information. Our security measures may not prevent an employee or consultant from misappropriating our trade secrets and providing them to a competitor, and recourse we take against such misconduct may be expensive and not provide an adequate remedy to protect our interests fully. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive, and time-consuming, and the outcome is unpredictable. In addition, trade secrets may be independently developed by others in a manner that could prevent legal recourse by us. If any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position could be harmed.

In addition, courts outside the United States are sometimes less willing to protect trade secrets. We may need to share our proprietary information, including trade secrets, with future business partners, collaborators, contractors and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by private parties or foreign actors, and those affiliated with or controlled by state actors. If we choose to go to court to stop a third-party from using any of our trade secrets, we may incur substantial costs. These lawsuits may consume our time and other resources even if we are successful. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees, consultants and current and potential business partners, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology.

Thus, we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors and current and potential business partners to execute confidentiality agreements upon the commencement of employment, consulting or other applicable relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. Any disclosure, either intentional or unintentional, by our employees or third-party consultants and vendors that we engage to perform research, clinical trials or manufacturing activities, or misappropriation by third parties (such as through a cybersecurity breach) of our trade secrets or proprietary information could enable competitors to duplicate or surpass our technological achievements, thus eroding our competitive position in our market. Because we expect to rely on third parties in the development and manufacture of our product candidates, we must, at times, share trade secrets with them, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed. In the case of employees, the agreements provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our sole and exclusive property. We also have adopted policies and conduct training that provides guidance on our expectations, and our advice for best practices, in protecting our trade secrets.

We cannot prevent other companies from licensing some of the same intellectual properties that we have licensed or from otherwise duplicating our business model and operations.

Since parties we have licenses with are developing therapies to similar technologies, they may make their methods and data available to third parties, who may want to enter into our line of business and compete against us. We currently do not have any exclusive rights to our entire product portfolio that could be used to prevent third parties from duplicating our business plan or from otherwise directly competing against us. No assurance can be given that our existing exclusive rights are or will be sufficient to prevent others from competing with us and developing substantially similar products.

Third-party claims of intellectual property infringement may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our ability to research, develop, manufacture, market and sell our current and any future product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, derivation, *inter partes* review, post grant review, and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. We may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that our product candidates and/or proprietary technologies infringe their intellectual property rights. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our product candidates. We are further aware of certain patents, and patent applications in the United States and elsewhere that contain claims that, if issued in their present form, may cover our TIL products or their methods of use or manufacture. We, along with a number of third parties in the TIL cell therapy field, have been involved in opposition proceedings in Europe with respect to some of these patents. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Moreover, it is not always clear to industry participants, including us, which patents cover various types of drugs, products or their methods of use or manufacture. Thus, because of the large number of patents issued and patent applications filed in our fields, there may be a risk that third parties may allege they have patent rights encompassing our product candidates, technologies or methods.

If a third-party claims that we infringe its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement and other intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;
- substantial damages for infringement, which we may have to pay if a court decides that the product candidate or technology at issue infringes on or violates the third-party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;
- a court prohibiting us from developing, manufacturing, marketing or selling our product candidates, or from using our proprietary technologies, unless the third-party licenses its product rights to us, which it is not required to do;
- if a license is available from such third-party (and no such license may be available), we may have to pay substantial royalties, upfront fees and other amounts, and/or grant cross-licenses to intellectual property rights for our products; and
- redesigning our product candidates or processes so they do not infringe, which may not be possible or may require substantial monetary expenditures and time.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations or could otherwise adversely affect our business, results of operations and financial condition.

Third parties may assert that we are employing their proprietary technology without authorization. Generally, conducting clinical trials and other development activities in the United States is protected under the Safe Harbor exemption as set forth in 35 U.S.C. § 271. If and when one of our product candidates is approved by the FDA, that certain third-party may then seek to enforce its patent by filing against us a patent infringement lawsuit. In this regard, patents issued in the United States by law enjoy a presumption of validity that can be rebutted only with evidence that is "clear and convincing," a heightened standard of proof. There may be third-party patents of which we currently are unaware with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. We have conducted freedom to operate analyses with respect to only certain of our products and services and we cannot guarantee that our analyses are complete and thorough, nor can we be sure that we have identified each and every patent and pending application in the United States and abroad that is relevant or necessary to the commercialization of our products and services. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may infringe.

In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of our product candidates, constructs or molecules used in or formed during the manufacturing process, or any final product itself, the holders of any such patents may be able to block our ability to commercialize the product candidate unless we obtained a license under the applicable patents, or until such patents expire or they are finally determined to be held invalid or unenforceable. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, the holders of any such patent may be able to block our ability to develop and commercialize the product candidate unless we obtained a license or until such patent expires or is finally determined to be held invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, or at all, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business. Even if we obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and, if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. This type of litigation or proceeding could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other intellectual property related proceedings could adversely affect our business, results of operations and financial condition.

Parties making claims against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. In addition, if our product candidates are found to infringe the intellectual property rights of third parties, these third parties may also assert infringement claims against our licensees and other parties with whom we have business relationships, and we may be required to indemnify those parties for any damages they suffer as a result of these claims. If any

of these claims succeed, we may be required to pay damages on behalf of those parties or may be required to obtain licenses for the products they use. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. Any such license may not be available at all or may not be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow future commercialization of our product candidates, if approved. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize our product candidates, which could adversely affect our business, results of operations and financial condition.

Third parties may assert that our employees, consultants or other third parties have wrongfully used, disclosed confidential information, misappropriated trade secrets or are in breach of non-competition or non-solicitation agreements.

As is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously employed at universities or other biopharmaceutical or pharmaceutical companies, including our competitors or potential competitors. Although no material claims against us currently are pending or threatened, and although we try to ensure that our employees, consultants and other third parties do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants, independent contractors or current or potential business partners have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties, or are in breach of any non-competition or non-solicitation agreements. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities.

We may be subject to claims that former employees, collaborators, or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor. The failure to name the proper inventors on a patent application can result in the patents issuing thereon being unenforceable. Inventorship disputes may arise from conflicting views regarding the contributions of different individuals named as inventors, the effects of foreign laws where foreign nationals are involved in the development of the subject matter of the patent, conflicting obligations of third parties involved in developing our product candidates or as a result of questions regarding co-ownership of potential joint inventions. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship. Alternatively, or additionally, we may enter into agreements to clarify the scope of our rights in such intellectual property. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, results of operations and financial condition.

In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and, if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. This type of litigation or proceeding could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other intellectual property related proceedings could adversely affect our business, results of operations and financial condition.

We may not be successful in obtaining or maintaining necessary rights to develop current and any future product candidates on acceptable terms.

Because our programs may involve additional product candidates that may require the use of proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license or use these proprietary rights.

Our product candidates also may require specific formulations to work effectively and efficiently and these rights may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and expenses and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology.

Additionally, we sometimes collaborate with academic institutions and governmental authorities to accelerate our preclinical research or development under written agreements with these institutions. In certain cases, these institutions provide us with an option to negotiate a license to any of the institution’s rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business, results of operations and financial condition could be adversely affected.

The licensing and acquisition of third-party intellectual property rights is a highly competitive area, and companies, which may be more established, or have greater resources than we do, also may be pursuing strategies to license or acquire third-party intellectual property rights that we consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe our patents or the patents of our licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming.

In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non-enablement or insufficient written description. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. For the patents and patent applications that we have licensed, we may have limited or no right to participate in the defense of any licensed patents against challenge by a third party. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of any future patent protection on our current or future product candidates. Such a loss of patent protection could harm our business.

In addition, in an infringement proceeding, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. Moreover, our ability to successfully pursue infringement claims or otherwise enforce intellectual property that we license from or co-own with another party may require the participation and co-operation of the co-owner or licensor, and may be impaired or prohibited if such participation or co-operation is insufficient or cannot be secured.

We may choose to challenge the patentability of claims in a third-party's U.S. patent by requesting that the USPTO review the patent claims in an *ex-parte* re-exam, *inter partes* review or post-grant review proceedings. These proceedings are expensive and may consume our time or other resources. We may choose to challenge a third-party's patent in patent opposition proceedings in the European Patent Office, or EPO, or another foreign patent office. The costs of these opposition proceedings could be substantial, and may consume our time or other resources. If we fail to obtain a favorable result at the USPTO, EPO or other patent office then we may be exposed to litigation by a third-party alleging that the patent may be infringed by our product candidates or proprietary technologies.

In addition, because some patent applications in the United States may be maintained in secrecy until the patents are issued, patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, and publications in the scientific literature often lag behind actual discoveries, others may have filed patent applications for technology covered by our owned and in-licensed issued patents or our pending applications, and we or, if applicable, a licensor may not have been the first to invent the technology. Our competitors may have filed, and may in the future file, patent applications covering our products or technology similar to ours. Any such patent application may have priority over our owned and in-licensed patent applications or patents, which could require us to obtain rights to issued patents covering such technologies. For applications that have claims entitled to a priority date before March 16, 2013, if another party has filed a U.S. patent application on inventions similar to those owned by or in-licensed to us, we or, in the case of in-licensed technology, the licensor may have to participate in an interference proceeding declared by the USPTO to determine priority of invention in the United States. If we or one of our licensors is a party to an interference proceeding involving a U.S. patent application on inventions owned by or in-licensed to us, we may incur substantial costs, divert management's time and expend other resources, even if we are successful.

Interference proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Litigation or interference proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with

our licensors, misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees, and various other governmental fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent application process and following the issuance of a patent. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which could adversely affect our business, results of operations and financial condition.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court or the USPTO.

If we or one of our licensing partners initiate legal proceedings against a third-party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate, as applicable, is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third-party can assert invalidity or unenforceability of a patent. Third parties also may raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post grant review, derivation proceedings and equivalent proceedings in foreign jurisdictions (*e.g.*, opposition proceedings). Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, there may be invalidating prior art, of which we, our patent counsel and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, or if we are otherwise unable to adequately protect our rights, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection could adversely affect our business, results of operations and financial condition.

Changes in patent law in the United States and in other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the United States has enacted and is currently implementing the America Invents Act. Moreover, recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and

weakened the rights of patent owners in other situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in the case of *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, the U.S. Supreme Court held that certain claims to DNA molecules are not patentable. We cannot predict how these decisions or any future decisions by the courts, the U.S. Congress or the USPTO may impact the value of our patents. Similarly, any adverse changes in the patent laws of other jurisdictions could adversely affect our business, results of operations and financial condition.

We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.

We have limited intellectual property rights outside the United States. Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can have a different scope and strength than those in the United States. Moreover, obtaining such protection in a timely manner, or at all, may be affected by factors or events beyond our control, such as a prolonged economic downturn, or global financial or political crises, whether or not related to the ongoing COVID-19 pandemic or the ongoing political unrest between Russia and the Ukraine. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but where enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biopharmaceutical products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products against third parties in violation of our proprietary rights generally. The initiation of proceedings by third parties to challenge the scope or validity of our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. Proceedings to enforce our patent and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Similarly, if our trade secrets are disclosed in a foreign jurisdiction, competitors worldwide could have access to our proprietary information and we may be without satisfactory recourse. Such disclosure could have a material adverse effect on our business. Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws. In addition, certain countries, including China and India, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we and our licensors may have limited remedies if patents are infringed or if we or our licensors are compelled to grant a license to a third party, which could materially diminish the value of those patents. In addition, many countries limit the enforceability of patents against government authorities or government contractors. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We may incur substantial costs as a result of litigation or other proceedings relating to patents, and we may be unable to protect our rights to our products and technology.

If we or our licensors choose to go to court to stop a third-party from using the inventions claimed in our owned or in-licensed patents, that third-party may ask the court to rule that the patents are invalid and/or should not be enforced against that third-party. These lawsuits are expensive and would consume time and other resources even if we or they, as the case may be, were successful in stopping the infringement of these patents. In addition, there is a risk that the court will decide that these patents are not valid and that we or they, as the case may be, do not have the right to stop others from using the inventions. An adverse determination in any such proceeding could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us. An unfavorable result at the USPTO, EPO or other patent office may result in the loss of our right to exclude others from practicing one or more of our inventions in the relevant country or jurisdiction, which could adversely affect our business, results of operations and financial condition.

There also is the risk that, even if the validity of these patents is upheld, the court will refuse to stop the third-party on the ground that such third-party's activities do not infringe our owned or in-licensed patents. In addition, the U.S. Supreme Court recently has changed some legal principles that affect patent applications, granted patents and assessment of the eligibility or validity of these patents. As a consequence, issued patents may be found to contain invalid claims according to the newly revised eligibility and validity standards. Some of our owned or in-licensed patents may be subject to challenge and subsequent invalidation or significant narrowing of claim scope in proceedings before the USPTO, or during litigation, under the revised criteria which also could make it more difficult to obtain patents.

We, or our licensors, may not be able to detect infringement against our owned or in-licensed patents, as the case may be, which may be especially difficult for manufacturing processes or formulation patents. Even if we or our licensors detect infringement by a third-party of our owned or in-licensed patents, we or our licensors, as the case may be, may choose not to pursue litigation against or settlement with the third-party. If we, or our licensors, later sue such third-party for patent infringement, the third-party may have certain legal defenses available to it, which otherwise would not be available except for the delay between when the infringement was first detected and when the suit was brought. Such legal defenses may make it impossible for us or our licensors to enforce our owned or in-licensed patents, as the case may be, against such third-party.

If another party questions the patentability of any of our claims in our owned or in-licensed U.S. patents, the third-party can request that the USPTO review the patent claims such as in an *inter partes* review, *ex parte* re-exam or post-grant review proceedings. These proceedings are expensive and may result in a loss of scope of some claims or a loss of the entire patent. In addition to potential USPTO review proceedings, we may become a party to patent opposition proceedings at the EPO or similar proceedings in other foreign patent offices, where either our owned or in-licensed foreign patents are challenged.

In the future, we may be involved in similar proceedings challenging the patent rights of others, and the outcome of such proceedings is highly uncertain.

An adverse determination in any such proceeding may result in our inability to manufacture or commercialize products without infringing third-party patent rights. The costs of these opposition or similar proceedings could be substantial, and may result in a loss of scope of some claims or a loss of the entire patent.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional application filing date. Various

extensions such as patent term adjustments and/or extensions, may be available, but the life of a patent, and the protection it affords, is limited. For instance, a patent term extension based on regulatory delay may be available in the United States. However, only a single patent can be extended for each marketing approval, and any patent can be extended only once, for a single product. Moreover, the scope of protection during the period of the patent term extension does not necessarily extend to all claims, but instead only to claims that cover the product as approved. Even if patents covering our product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products, including biosimilars. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

As of May 2, 2023, we own or in-license patent applications covering our proprietary technologies and our product candidates that if issued as patents are expected to expire between 2039 and 2044, without taking into account any possible patent term adjustments or extensions. However, the USPTO or relevant foreign patent offices may not grant any of these patent applications. If issued, the patents may expire before, or soon after, our first product achieves marketing approval in the United States or foreign jurisdictions. Further, if issued, the patents may expire before, or soon after, any regulatory protection afforded our first approved product through data and/or market exclusivity in the United States or foreign jurisdictions. Upon the expiration of any such patents, if issued, we may lose the right to exclude others from practicing these inventions. The expiration of these patents also could adversely affect our business, results of operations and financial condition.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business, results of operations and financial condition could be adversely affected.

Our trademarks or trade names may be challenged, opposed, infringed, circumvented, invalidated, cancelled, declared generic, determined not to entitled to registration, or determined to be infringing on other marks. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in foreign jurisdictions. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. Any trademark litigation could be expensive. In addition, we could be found liable for significant monetary damages, including treble damages, disgorgement of profits and attorneys' fees, if we are found to have willfully infringed a trademark.

Moreover, any name we propose to use with our product candidates in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. Similar requirements exist in Europe. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA (or an equivalent administrative body in a foreign jurisdiction) objects to any of our proposed proprietary product names, it may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. Furthermore, in many countries, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark.

We may not be able to protect our rights to our trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business, results of operations and financial condition could be adversely affected.

Risks Related to Our Common Stock and This Offering

No public market for our common stock currently exists, and we do not know whether an active, liquid and orderly trading market will develop for our common stock, or what the market price of our common stock will be, and as a result it may be difficult for you to sell your shares of our common stock.

Prior to this offering there has been no public market for shares of our common stock. Although we have applied to list our common stock on the Nasdaq Global Market, or Nasdaq, under the symbol "TSBX", an active trading market for our shares may never develop or be sustained following this offering. You may not be able to sell your shares quickly or at the market price if trading in shares of our common stock is not active. The initial public offering price for our common stock will be determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of the common stock after the offering. As a result of these and other factors, you may be unable to resell your shares of our common stock at or above the initial public offering price, at the time you wish to sell them, or at a price that you consider reasonable. The lack of an active market may also reduce the fair market value of your shares. Further, an inactive market also may impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products by using our shares of common stock as consideration.

The price of our common stock may be volatile, and you could lose all or part of your investment.

The trading price of our common stock following this offering is likely to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the progress, conduct, enrollment or results of our two Phase 1 clinical trials for TIDAL-01;
- any termination of, loss of rights or disputes or disagreements arising under our collaboration, partnership and strategic alliance agreements;
- any delay in identifying additional product candidates from our current and future development programs;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings;
- adverse results or delays in future clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- adverse regulatory decisions, including failure to receive regulatory approval of our current product candidates or any future product candidate;
- changes in laws or regulations applicable to our current product candidates or any future product candidate, including but not limited to clinical trial requirements for approvals;
- adverse development concerning our competitors, particularly those developing TIL-based therapies;
- adverse developments concerning our manufacturers;
- our inability to obtain adequate product supply for any approved product or inability to do so at acceptable prices;
- our inability to establish collaborations or other strategic relationships, if needed;
- our ability to successfully develop and the costs associated with the development of our internal manufacturing processes;

- our failure to commercialize our product candidates, if approved;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of our current product candidates or any future product candidate;
- introduction of new products or services offered by us or our competitors;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- our ability to effectively manage our growth;
- actual or anticipated variations in quarterly operating results;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- publication of research reports about us or our industry, or our or a competitor's product candidates in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- changes in the market valuations of similar companies;
- volatility and instability in the financial and capital markets;
- overall performance of the equity markets, including the effects of geopolitical events;
- sales of our common stock by us, our insiders, or other stockholders in the future, or issuances by us of shares of our common stock in connection with strategic transactions;
- expiration of market standoff or lock-up agreements described in the section titled "Underwriting" section;
- conditions and trends in the biotechnology and other industries;
- trading volume of our common stock;
- changes in accounting practices;
- ineffectiveness of our internal controls;
- disputes or other developments relating to intellectual property and other proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- significant lawsuits, including patent or stockholder litigation;
- changes in the structure of healthcare payment systems, including coverage and adequate reimbursement for any approved drug;
- global or regional public health emergencies, including the ongoing COVID-19 pandemic or other pandemics, natural disasters, or major catastrophic events;
- adverse macroeconomic conditions or geopolitical events, including the COVID-19 pandemic, the conflict between Ukraine and Russia, and recent bank failures;
- the occurrence of any of the risks described in this section titled "Risk Factors"; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general, and the market for biotechnology companies in particular, have experienced extreme price and volume fluctuations that often have been unrelated or disproportionate to the

operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. If the market price of our common stock following this offering does not exceed the initial public offering price, you may not realize any return on your investment in our common stock and you may lose some or all of your investment. In the past, securities class action litigation often has been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources, which could adversely affect our business, results of operations and financial condition.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We currently anticipate that we will retain future earnings for the research, development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any future debt or other financing arrangements may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Any return to stockholders therefore will be limited to the appreciation of in the price of our common stock.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Based on 123,977,816 shares of our common stock outstanding as of March 31, 2023, prior to this offering, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately % of our voting stock. Immediately following the completion of this offering, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates will beneficially hold, in the aggregate, approximately % of our outstanding common stock (assuming no exercise of the underwriters' option to purchase additional shares of our common stock and no exercise of outstanding options). These stockholders, acting together, would be able to significantly influence all matters requiring stockholder approval. For example, these stockholders would be able to significantly influence elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This level of control may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price will be substantially higher than the pro forma as adjusted net tangible book value per share of our common stock after this offering. Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the pro forma as adjusted net tangible book value per share after this offering. As a result, investors purchasing common stock in this offering will incur immediate dilution of $ per share, based on an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, representing the difference between our pro forma as adjusted net tangible book value per share after giving effect to this offering and the assumed initial public offering price. Further, investors purchasing common stock in this offering will contribute approximately % of the total amount invested by stockholders since our inception, but will own only approximately % of the shares of common stock outstanding after this offering.

This dilution is due to our investors who purchased shares prior to this offering having paid substantially less when they purchased their shares than the price offered to the public in this offering. To the extent outstanding restricted stock awards vest or outstanding options are exercised, there will be further dilution to new

investors. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. For a further description of the dilution that you will experience immediately after this offering, see section titled "Dilution."

We are an emerging growth company and a smaller reporting company, and the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.

We are an emerging growth company, as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements, and exemptions from the requirements of holding nonbinding advisory votes on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years following the year in which we complete this offering, although circumstances could cause us to lose that status earlier. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of this offering, (b) in which we have total annual gross revenue of at least $1.235 billion and (c) in which we are deemed to be a large accelerated filer, which requires the market value of our common stock that is held by non-affiliates to exceed $700.0 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period. Investors may find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Under the JOBS Act, emerging growth companies also can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of this exemption, and, as a result, our operating results and financial statements may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

We also are a "smaller reporting company," meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700.0 million and our annual revenue is less than $100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250.0 million or (ii) our annual revenue is less than $100.0 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Conflicts of interest may arise because some members of our board of directors are representatives of our principal stockholders.

Certain of our principal stockholders or their affiliates are venture capital funds or other investment vehicles that could invest in entities that directly or indirectly compete with us. As a result of these relationships, when conflicts arise between the interests of the principal stockholders or their affiliates and the interests of other stockholders, members of our board of directors that are representatives of the principal stockholders may not be disinterested.

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

If our stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our common stock could decline. Based on shares of common stock outstanding as of March 31, 2023, upon the completion of this offering we will have outstanding a total of shares of common stock. Of these shares, only the shares of common stock sold in this offering by us, plus any shares sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable without restriction in the public market immediately following this offering.

The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus, subject to earlier release of all or a portion of the shares at the sole discretion of BofA Securities, Inc., SVB Securities LLC and Piper Sandler & Co. After the lock-up agreements expire, based upon the number of shares of common stock, on an as-converted basis, outstanding as of March 31, 2023, up to an additional shares of common stock will be eligible for sale in the public market. Approximately % of these additional shares are beneficially held by directors, executive officers and their affiliates and will be subject to certain limitations of Rule 144 under the Securities Act of 1933, as amended, or the Securities Act.

In addition, shares of common stock that are either subject to outstanding options or reserved for future issuance under our existing equity compensation plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

After this offering, the holders of 105,834,805 shares of our common stock as of March 31, 2023 will be entitled to rights with respect to the registration of their shares under the Securities Act as provided under the terms of the Second Amended and Restated Investors' Rights Agreement, or the Rights Agreement, between us and the holders of our convertible preferred stock, or in the case of Langer (as defined below), under the Myst Merger Agreement, in each case, subject to the 180-day lock-up agreements described above. See section titled "Description of Capital Stock—Registration Rights." Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by affiliates, as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

We have broad discretion in the use of our existing cash and the net proceeds from this offering and may not use them effectively.

Following this offering, our management will have broad discretion in the application of our existing cash and the net proceeds from this offering, including for any of the purposes described in the section titled "Use of Proceeds," and you will not have the opportunity as part of your investment decision to assess whether such proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of our existing cash and the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our existing cash and the net proceeds from this offering in ways that ultimately increase the value of your investment. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our amended and restated certificate of incorporation, as they will be in effect immediately following the closing of this offering, and our amended and restated bylaws, as they will be in effect immediately prior to the closing of this offering, may have the effect of delaying or preventing a change of control or changes in our board of directors and management. Our amended and restated certificate of incorporation and amended and restated bylaws will include provisions that:

- authorize our board of directors to issue, without further action by the stockholders, shares of undesignated preferred stock with terms, rights and preferences determined by our board of directors that may be senior to our common stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors, the chairperson of our board of directors or our chief executive officer;
- establish an advance notice procedure for stockholder proposals to be brought before an annual meeting, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, with each class serving three-year staggered terms;
- prohibit cumulative voting in the election of directors;
- provide that our directors may be removed for cause only upon the vote of at least 66 2/3% of our outstanding shares of voting stock;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum; and
- require the approval of our board of directors or the holders of at least 66 2/3% of our outstanding shares of voting stock to amend our bylaws and certain provisions of our certificate of incorporation.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or DGCL, which generally, subject to certain exceptions, prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any "interested" stockholder for a period of three years following the date on which the stockholder became an "interested" stockholder. Any of the foregoing provisions could limit the price that investors might be willing to pay in the future for shares of our common stock, and they could deter potential acquirers of our company, thereby reducing the likelihood that holders of our common stock would receive a premium for their shares of our common stock in an acquisition.

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware and the federal district courts of the United States will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;

- any action asserting a claim against us arising under the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

This provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, our amended and restated certificate of incorporation will further provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. While the Delaware courts have determined that such choice of forum provisions are facially valid and several state trial courts have enforced such provisions and required that suits asserting Securities Act claims be filed in federal court, there is no guarantee that courts of appeal will affirm the enforceability of such provisions and a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and the provisions may not be enforced by a court in those other jurisdictions. If a court were to find either exclusive forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with litigating Securities Act claims in state court, or both state and federal court, which could seriously harm our business, results of operations and financial condition.

These exclusive forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers and other employees. If a court were to find either exclusive-forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving the dispute in other jurisdictions, all of which could seriously harm our business.

General Risk Factors

We will incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

As a public company, we will incur significant legal, accounting, compliance and other expenses that we did not incur as a private company. We will be subject to the reporting requirements of the Exchange Act, which will require, among other things, that we file with the SEC annual, quarterly, and current reports with respect to our business and financial condition. In addition, the Sarbanes-Oxley Act, as well as rules subsequently adopted by the SEC and Nasdaq to implement provisions of the Sarbanes-Oxley Act, impose significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls and changes in corporate governance practices. Further, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas such as "say on pay" and proxy access. Emerging growth companies and smaller reporting companies are exempted from certain of these requirements, but we may be required to implement these requirements sooner than budgeted or planned and thereby incur unexpected expenses. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate.

We expect the rules and regulations applicable to public companies to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. If these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, results of operations and financial condition. The increased costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business or increase the prices of our products or services. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements also makes it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

If we fail to maintain proper and effective internal control over financial reporting, our ability to produce accurate and timely financial statements could be impaired, investors may lose confidence in our financial reporting and the trading price of our common stock may decline.

We are not currently required to comply with the rules of the SEC implementing Section 404 of the Sarbanes-Oxley Act and are therefore not required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. Upon becoming a public company, we will be required to comply with the SEC's rules implementing Sections 302 and 404 of the Sarbanes-Oxley Act, which will require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of internal control over financial reporting. Although we will be required to disclose changes made in our internal control over financial reporting on a quarterly basis, we will not be required to make our first annual assessment of our internal control over financial reporting until our second annual report on Form 10-K. However, as an emerging growth company, our independent registered public accounting firm will not be required to formally attest to the effectiveness of our internal control over financial reporting until the later of the year following our first annual report required to be filed with the SEC or the date we are no longer an emerging growth company. When we lose our status as an "emerging growth company" and reach an accelerated filer threshold, our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. To comply with the requirements of being a reporting company under the Exchange Act, we may need to upgrade our information technology systems; implement additional financial and management controls, reporting systems and procedures; and hire additional accounting and finance staff. If we or, if required, our auditors are unable to conclude that our internal control over financial reporting is effective, investors may lose confidence in our financial reporting and the trading price of our common stock may decline.

There may be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting once that firm begins its Section 404 reviews, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon the completion of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We must design our disclosure controls and procedures to reasonably assure that information we

must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Any disclosure controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement causing us to fail to make any related party transaction disclosures. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected. In addition, we do not have a formal risk management program for identifying and addressing risks to our business in other areas.

We could be subject to securities class action litigation, which is expensive and could divert management attention.

The market price of our common stock is likely to be volatile. The stock market in general, and Nasdaq and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies. In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs (including the cost to defend against, and any potential adverse outcome resulting from any such proceeding), damage to our reputation, and a diversion of management's attention and resources from other business concerns, which could harm our business.

Our failure to meet Nasdaq's continued listing requirements could result in a delisting of our common stock.

If, after listing, we fail to satisfy the continued listing requirements of Nasdaq, such as the corporate governance requirements or the minimum closing bid price requirement, Nasdaq may take steps to delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with the listing requirements of Nasdaq.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our company. If no securities or industry analysts commence coverage of our company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which would likely cause our stock price and trading volume to decline.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements about us and our industry. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy, research and development costs; the anticipated timing, costs and conduct of preclinical studies and clinical trials for our Selected TIL programs and product candidates; the timing and likelihood of regulatory filings and approvals for our product candidates; our ability to commercialize our product candidates, if approved; the potential benefits of our strategic collaborations and our ability to enter into strategic arrangements; the timing and likelihood of success, plans and objectives of management for future operations; future results of anticipated product development efforts; our expected future financing needs; and expected uses of the net proceeds from this offering, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “would,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,” “predict,” “potential” or “continue” or the negative of these terms or other similar expressions. The forward-looking statements in this prospectus are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, results of operations and financial condition. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described under the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in this prospectus. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we undertake no obligation to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the SEC after the date of this prospectus. See the section titled “Where You Can Find More Information.”

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based on information available to us as of the date of this prospectus, and while we believe such information provides a reasonable basis for these statements, such information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely on these statements.

MARKET, INDUSTRY AND OTHER DATA

We obtained the market, industry and statistical data in this prospectus from our own internal estimates and research as well as from industry and general publications and research, surveys and studies conducted by third parties. All of the market data used in this prospectus involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. While we believe that each of these studies and publications is reliable, the industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of important factors, including those described in the section titled “Risk Factors.” These and other factors could cause results to differ materially from those expressed in the estimates made by third parties and by us.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of shares of our common stock in this offering will be approximately $ million (or approximately $ million if the underwriters exercise their option to purchase additional shares in full), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the net proceeds to us from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each 1,000,000 share increase or decrease in the number of shares offered by us would increase or decrease, as applicable, the net proceeds to us from this offering by approximately $ million, assuming that the assumed initial offering price to the public remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We do not expect that a change in the initial price to the public or the number of shares by these amounts would have a material effect on the uses of the proceeds from this offering, although it may accelerate the time at which we will need to seek additional capital.

The principal purposes of this offering are to increase our financial flexibility, create a public market for our common stock, and facilitate our future access to capital markets.

We intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, as follows:

- approximately $ million to fund the continued development of TIDAL-01 in our two Phase 1 clinical trials for the treatment of breast cancer, colorectal cancer, uveal melanoma and other non-cutaneous and cutaneous melanomas;
- approximately $ million to advance our TIDAL-02 and TIDAL-01 and viral immunotherapy combination programs; and
- remaining proceeds, if any, for working capital and general corporate purposes.

We may also use a portion of the remaining net proceeds and our existing cash, cash equivalents and short-term investments, to in-license, acquire, or invest in complementary businesses, technologies, products, or assets. However, we have no current commitments or obligations to do so.

We believe that the net proceeds of this offering, together with our existing cash, cash equivalents and short-term investments will enable us to fund our operations for at least the next months. In particular, we expect that the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, will allow us to . We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we expect. This expected use of net proceeds from this offering and our existing cash, cash equivalents and short-term investments represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. Predicting the costs necessary to develop product candidates can be difficult and we anticipate that we will need additional funds to complete our clinical development of any of our product candidates. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs.

Our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of those net proceeds. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business. Pending these uses, we plan to invest these net proceeds in short-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States.

DIVIDEND POLICY

We have never declared or paid, and do not anticipate declaring or paying, in the foreseeable future, any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and short-term investments and capitalization as of March 31, 2023:

- on an actual basis;
- on a pro forma basis to reflect (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of common stock and the related reclassification of the carrying value of our convertible preferred stock to permanent equity in connection with the closing of this offering and (ii) the filing and effectiveness of our amended and restated certificate of incorporation that will be in effect immediately following the closing of this offering; and
- on a pro forma as adjusted basis to reflect (i) the pro forma adjustments set forth above and (ii) our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the which is midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read the information in this table together with our consolidated financial statements and related notes included elsewhere in this prospectus and the sections titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Description of Capital Stock.”

	As of March 31, 2023		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(in thousands, except share and per share data) (unaudited)		
Cash, cash equivalents and short-term investments	$	$	$
Redeemable convertible preferred stock, $0.001 par value per share, 99,791,338 shares authorized, issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted			
Stockholders’ (deficit) equity:			
Preferred stock, $0.001 par value per share; no shares authorized, issued or outstanding, actual; shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted			
Common stock, $0.001 par value; 147,892,358 shares authorized, 24,186,478 shares issued and outstanding, actual; shares authorized, shares issued and outstanding, pro forma; and shares authorized, shares issued and outstanding, pro forma as adjusted			
Additional paid-in capital			
Accumulated deficit			
Total stockholders’ (deficit) equity			
Total capitalization	$	$	$

(1) The pro forma as adjusted information set forth above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the

cover page of this prospectus, would increase or decrease, as applicable, each of our pro forma as adjusted cash, cash equivalents and short-term investments, additional paid-in capital, total stockholders' (deficit) equity and total capitalization by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each 1,000,000 share increase or decrease in the number of shares offered by us would increase or decrease, as applicable, each of our pro forma as adjusted cash, cash equivalents and short-term investments, additional paid-in capital, total stockholders' equity and total capitalization by approximately $ million, assuming that the assumed initial offering price to the public remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The outstanding share information in the table above is based on 123,977,816 shares of our common stock as of March 31, 2023, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into 99,791,338 shares of our common stock in connection with the closing of this offering, and excludes:

- 19,930,473 shares of our common stock issuable upon the exercise of outstanding stock options as of March 31, 2023, with a weighted-average exercise price of $1.11 per share;
- shares of our common stock issuable upon the exercise of outstanding stock options granted subsequent to March 31, 2023, with a weighted-average exercise price of $ per share;
- 2,930,403 shares of our common stock reserved for future issuance to Moffitt contingent on the achievement of certain clinical and regulatory milestones pursuant to our Alliance Agreement with Moffitt;
- shares of our common stock reserved for future issuance under our 2023 Plan, which will become effective upon the execution of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan; and
- shares of our common stock reserved for future issuance under our ESPP, which will become effective upon the execution of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the initial public offering price per share and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

As of March 31, 2023, we had a historical net tangible book value (deficit) of $ million, or $ per share of common stock. Our historical net tangible book value (deficit) per share represents total tangible assets less total liabilities and convertible preferred stock, which is not included within permanent equity, divided by the number of shares of our common stock outstanding as of March 31, 2023.

Our pro forma net tangible book value as of March 31, 2023, was $ million, or $ per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities, (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of common stock and the related reclassification of the carrying value of our convertible preferred stock to permanent equity in connection with the closing of this offering and (ii) the filing and effectiveness of our amended and restated certificate of incorporation that will be in effect immediately following the closing of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares outstanding as of March 31, 2023, after giving effect to the pro forma adjustments described above.

After giving further effect to the sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of March 31, 2023 would have been approximately $ million, or approximately $ per share. This amount represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and immediate dilution of approximately $ per share to new investors in this offering. We determine dilution by subtracting the as pro forma adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock in this offering.

The following table illustrates this dilution:

Assumed initial public offering price per share		$
Historical net tangible book value (deficit) per share as of March 31, 2023	$	
Increase per share attributable to the pro forma adjustments described above		
Pro forma net tangible book value per share as of March 31, 2023		
Increase per share attributable to this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors in this offering		$

The pro forma as adjusted dilution information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted net tangible book value per share by $ per share and the dilution per share to investors participating in this offering by $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this

prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each 1,000,000 share increase in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase the pro forma as adjusted net tangible book value per share by $ and decrease the dilution per share to investors participating in this offering by $, assuming that the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each 1,000,000 share decrease in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share after this offering by $ and increase the dilution per share to new investors participating in this offering by $, assuming that the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase an additional shares of our common stock in full, the pro forma as adjusted net tangible book value of our common stock would increase to $ per share, representing an immediate increase in the pro forma net tangible book value per share to existing stockholders of $ per share and an immediate dilution of $ per share to investors participating in this offering.

The following table summarizes as of March 31, 2023 on the pro forma as adjusted basis described above, the number of shares of our common stock, the total consideration and the average price per share (i) paid to us by our existing stockholders and (ii) to be paid by investors purchasing our common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Weighted-Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders		%	$	%	$
New investors					
Total		100%	$	100%	$

The foregoing tables and calculations are based on 123,977,816 shares of our common stock as of March 31, 2023, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into 99,791,338 shares of our common stock in connection with the closing of this offering, and excludes:

- 19,930,473 shares of our common stock issuable upon the exercise of outstanding stock options as of March 31, 2023, with a weighted-average exercise price of $1.11 per share;
- shares of our common stock issuable upon the exercise of outstanding stock options granted subsequent to March 31, 2023, with a weighted-average exercise price of $ per share;
- 2,930,403 shares of our common stock reserved for future issuance to Moffitt contingent on the achievement of certain clinical and regulatory milestones pursuant to our Alliance Agreement with Moffitt;
- shares of our common stock reserved for future issuance under our 2023 Plan, which will become effective upon the execution of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan; and

- shares of our common stock reserved for future issuance under our ESPP, which will become effective upon the execution of the underwriting agreement for this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under this plan.

To the extent that any outstanding options are exercised or new options are issued under our stock-based compensation plans, or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the section titled "Summary Consolidated Financial Data" and our consolidated financial statements and related notes and the other financial information included elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. You should carefully read the "Risk Factors" section of this prospectus to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements. Please also see the section titled "Special Note Regarding Forward-Looking Statements."

Overview

We are a clinical stage biotechnology company focused on developing new medicines to treat and cure patients with solid tumors. Approved immunotherapies represent a significant advancement in the treatment of solid tumors, but many patients either do not respond or experience relapsed disease following an initial response. We believe the most significant challenge to creating curative immunotherapies in these patients is the low numbers of T cells that can recognize and attack the tumor, which we refer to as tumor-reactive T cells. To address this problem, we are pioneering a differentiated approach to tumor infiltrating lymphocytes, or TILs, a clinically validated technology for treating solid tumors. We are developing next generation TIL therapies by selecting the most potent and tumor-reactive T cells, which we refer to as Selected TILs. Unlike other approaches that rely on standard "bulk TILs" that have demonstrated benefit only in limited tumor types, our Selected TILs are designed to extend the therapeutic benefit of TILs across the majority of solid tumors. We have initiated two Phase 1 clinical trials for our lead Selected TIL product candidate, TIDAL-01, for the treatment of breast cancer, colorectal cancer, uveal melanoma and other non-cutaneous and cutaneous melanomas. We intend to provide an initial clinical update across these two trials in . We are also advancing our preclinical pipeline including TIDAL-02, our next Selected TIL program, and TIDAL-01 in combination with viral immunotherapy.

We are developing next generation TIL therapies designed to drive therapeutic benefit and curative outcomes across multiple solid tumors. Our innovative Selected TIL approach focuses on selecting and expanding the most potent tumor-reactive T cells to overcome the limitations of bulk TILs. This approach expands upon work conducted in academia that demonstrated improved clinical responses for certain selected TILs in solid-tumor types where bulk TILs have not shown clinical benefit. We are leveraging this work to establish a standardized manufacturing process for large scale production of our Selected TILs.

We believe that our Selected TIL approach has the ability to drive therapeutic benefit in a wide range of solid tumors. We are developing a broad pipeline aimed at improving outcomes for patients, as illustrated in the chart below.

Programs		Product Overview	Key Indications	Preclinical	Phase 1	Phase 2	Phase 3	Next Anticipated Milestone
Selected TILs	TIDAL-01	Tumor-reactive selected TILs	Breast Cancer, Colorectal Cancer, Uveal Melanoma					Clinical update in
			Cutaneous Melanomas and Non-cutaneous Melanomas		Moffitt Collaboration*			
		Combination with viral immunotherapy	Solid Tumors					IND submission
	TIDAL-02	Selected TILs with next-gen manufacturing and TIL quality enhancements	Solid Tumors					IND submission

* Investigator sponsored trial at Moffitt Cancer Center

We are advancing TIDAL-01, our lead Selected TIL product candidate, for the treatment of multiple solid tumor indications. TIDAL-01 utilizes an unbiased identification and functional screening process to isolate and selectively expand the greatest breadth of tumor-reactive TILs from the patient's tumor. Our TIDAL-01 production process is designed to deliver at least 10^9 cells and targets greater than 70% functional and potent tumor-reactive T cells. We have initiated two Phase 1 clinical trials for TIDAL-01, including a multi-site trial for the treatment of breast cancer, colorectal cancer, and uveal melanoma, and an investigator sponsored trial with H. Lee Moffitt Cancer Center and Research Institute, Inc., or Moffitt, in both cutaneous and non-cutaneous melanomas. We intend to provide an initial clinical update across these two trials in .

Our next Selected TIL program, TIDAL-02, is being designed to encompass a next generation streamlined manufacturing process for tumor-reactive T cells and additional modifications to enhance TIL quality and function. We believe that TIDAL-02 has the potential to address the unmet medical need in solid tumor indications that are distinct from and complementary to TIDAL-01. TIDAL-02 is currently in preclinical development.

We intend to evaluate the combination of TIDAL-01 with viral immunotherapy through two approaches: (1) treatment of the patient with viral immunotherapy prior to TIL extraction to optimize TIL harvest and broaden applicability to additional tumor types with low immune cell infiltration and (2) treatment of the patient with viral immunotherapy following treatment with TIDAL-01 to optimize TIL trafficking and infiltration into solid tumors and to support the anti-tumor functions of infiltrating immune cells. We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

In December 2018, we completed a corporate reorganization pursuant to which Turnstone Biologics Inc. merged with and into Turnstone Biologics Corp., a newly formed Delaware corporation, as the successor company. As a result of this reorganization, we changed our domicile from the country of Canada to the State of Delaware. Our headquarters are located in San Diego, California and we operate as one segment. Since our inception, we have devoted substantially all of our efforts and financial resources to organizing and staffing our company, business planning, raising capital, discovering product candidates and securing related intellectual property rights and conducting research and development activities for our Selected TIL programs and product candidates. We do not have any products approved for sale and we have not generated any revenue from product sales and have incurred net losses since commencement of our operations through December 31, 2022, except for

the year ended December 31, 2021. We have funded our operations primarily through the sale of our convertible preferred stock and revenue from certain of our collaboration agreements. Since our inception, we have raised an aggregate of $171.9 million of gross proceeds from the issuance and sale of shares of our convertible preferred stock and $190.0 million in collaboration revenue from the AbbVie Agreement and Takeda Agreement, each as defined below. As of December 31, 2022 and March 31, 2023, we had cash, cash equivalents and short-term investments of $82.1 million and $ million, respectively.

We have incurred a significant operating loss in the current year and in the past, and we expect to continue to incur significant operating losses for the foreseeable future. Our net loss was $30.8 million for the year ended December 31, 2022. Our net loss was $ million and $ million for the three months ended March 31, 2023 and 2022, respectively. As of December 31, 2022 and March 31, 2023, we had an accumulated deficit of $121.6 million and $ million, respectively. Substantially all of our operating losses result from expenses incurred in our research and development programs and from general and administrative costs associated with our operations. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our current or future product candidates, and on our ability to enter into collaborations, strategic partnerships and alliances or marketing, distribution or licensing arrangements with third parties.

We expect to incur significant expenses and increasing operating losses for the foreseeable future as we continue the preclinical development, manufacturing and clinical development of, and seek regulatory approval for, our product candidates. In addition, we may incur expenses in connection with the in-license or acquisition of additional platform technologies and the development of any such product candidates. We also expect to incur additional costs associated with operating as a public company. Furthermore, our operating losses may fluctuate significantly from quarter to quarter and year to year due to timing of preclinical activities, clinical development and regulatory approval of our product candidates.

We plan to fund future operations and future capital funding needs through equity and debt financings, licensing transactions, and collaborations or strategic partnerships with other companies. We can provide no assurance that financing will be available in the amounts we need or on terms acceptable to us, if at all. If we enter into licensing transactions, collaborations, strategic partnerships or similar agreements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us and may reduce the value of our common stock. If we are not able to secure adequate additional funding, we may be forced to make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and suspend, delay or curtail our development programs. Any of these actions could materially harm our business.

Our innovative Selected TIL approach focuses on selecting and manufacturing the most potent tumor-reactive T cells to overcome the limitations of bulk TILs. This approach is grounded on work conducted in academia that has demonstrated improved clinical responses for selected TILs in solid tumor types where bulk TILs have not shown benefit. We are leveraging this work to establish a standardized manufacturing process for large scale production of our Selected TILs. We intend to establish in-house tumor sequencing capabilities, expedite manufacturing and shipping of peptides, and biopsy tumor prior to resection to enable earlier sequencing and peptide synthesis.

Macroeconomic and Geopolitical Trends

We continue to actively monitor the impact of various macroeconomic and geopolitical trends, such as high rates of inflation, supply chain disruptions and geopolitical instability, bank failures, and the COVID-19 pandemic on our business. To date, we have not experienced a material financial statement impact or business disruptions, including with our vendors or third parties, as a result of these negative macroeconomic or geopolitical trends. Our business has been, and may continue to be, impacted by the negative macroeconomic and geopolitical trends wherever we have clinical trial sites, contract manufacturing organizations, or CMOs, facilities or other business operations.

Global economic and business activities continue to face widespread uncertainties, and global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including severely diminished liquidity and credit availability, rising inflation and monetary supply shifts, rising interest rates, labor shortages, declines in consumer confidence, declines in economic growth, increases in unemployment rates, recession risks, and uncertainty about economic and geopolitical stability. Moreover, negative macroeconomic conditions could adversely impact our ability to obtain financing in the future on terms acceptable to us, or at all. In addition, the geopolitical instability and related sanctions could continue to have significant ramifications on global financial markets, including volatility in the U.S. and global financial markets.

To date, the COVID-19 pandemic has not had a material adverse impact on our productivity or our business, and as of December 31, 2022, we have not identified any significant disruption or impairment of our assets due to the pandemic. However, as COVID-19 transitions from a pandemic to an endemic, we cannot predict the potential future impacts of COVID-19 on us and third parties with whom we conduct business. These impacts will depend on future developments that are highly uncertain and cannot be predicted at this time. Given these uncertainties, COVID-19 could impact our business operations and our ability to execute on our associated business strategies and initiatives, and adversely impact our results of operations and our financial condition in the future, and could disrupt the business of third parties with whom we do business. We will continue to closely monitor and evaluate the nature and extent of the impacts of COVID-19 on our business, financial condition, results of operations, and prospects.

Collaboration Agreements

Below is a summary of the key terms for certain of our collaboration agreements. For a more detailed description of our collaboration agreements, see the section titled “Business—Collaboration Agreements” and Note 6 to our consolidated financial statements included elsewhere in this prospectus.

Moffitt Collaboration Agreements

Master Collaboration Agreement

In January 2021, we entered into an amended and restated master collaboration agreement, or the Moffitt Agreement, with Moffitt, to amend a then-existing master collaboration agreement from November 2019, as amended March 2020, between Moffitt and our now wholly-owned subsidiary, Myst Therapeutics LLC, with the intent to continue to work collaboratively in the research of cancer immunotherapies.

Moffitt granted us (1) a royalty-free, sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented solely by Moffitt in the performance of a research plan or through use of any data generated thereunder, or Moffitt Inventions, (a) for internal, non-commercial research purposes outside the field of adoptive cell therapy and/or (b) to research, develop, make, use, sell, offer to sell, or import products and/or services in the field of adoptive cell therapy and (2) a royalty free, sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented in performance of a research plan or through the use of Moffitt research materials, which are (i) specifically directed to the identity of melanoma-specific T cell receptors, (ii) invented during the collaboration term or within one year after the end of the collaboration term within the field of adoptive cell therapy, and (iii) invented solely by either parties’ employees or by both parties’ employees jointly, to research, develop, make, use, sell, offer to sell, or import products and/or services for cancer immunotherapy involving identifying relevant tumor reactive T cells from TILs.

Moffitt Alliance Agreement

In June 2022, we entered into a life science alliance agreement with Moffitt, or the Alliance Agreement, in order to further expand our relationship and support our existing agreements with Moffitt, or the Underlying Agreements. Pursuant to the Alliance Agreement, we will have priority access to Moffitt’s scientific research,

manufacturing, and clinical capabilities for the development of novel TIL therapies, including expedited clinical trial activation, enhanced patient screening and data sharing, access to Moffitt's cellular therapies research and development infrastructure, expanded molecular data sets and biospecimens for research, and allocated cGMP manufacturing capacity for our product candidates.

Under the Alliance Agreement, we are obligated to use commercially reasonable efforts to further develop TIL Products, to manufacture TIL Products, to obtain regulatory approval for at least one TIL Product in the United States and to commercialize TIL Products in all countries in which regulatory approval for a TIL Product has been obtained. For purposes of the Alliance Agreement, TIL Product means any pharmaceutical, biopharmaceutical, or biotechnology TIL product that has been developed by us or Moffitt and is advanced into clinical development under an IND sponsored by Moffitt.

Pursuant to the Alliance Agreement, we have agreed to pay to Moffitt a total amount of at least $17.5 million, or the Alliance Funding Amount, for research, development and manufacturing related services that will be paid in five equal annual installments on June 1st of each year starting on June 1, 2023. However, the aggregate amounts we pay to Moffitt for all fees, costs, expenses and other payments pursuant to any Underlying Agreement with Moffitt entered into subsequent to February 7, 2022 may be credited against the Alliance Funding Amount. This reimbursement amount will be calculated annually at the conclusion of each payment period, and, to the extent our annual aggregate payments to Moffitt exceed the applicable annual installment amount, we will receive a reduction in the amount due for future installment payments based on a predetermined formula agreed to by the parties.

In connection with the execution of the Alliance Agreement, we issued Moffitt 732,600 shares of our common stock. As partial consideration under the Alliance Agreement, we also agreed to issue Moffitt an additional 2,930,403 shares of our common stock in the aggregate upon the satisfaction of certain clinical and regulatory milestones with respect to TIL Products. In addition, upon achievement of certain thresholds for aggregate net sales of all TIL Products, we are required to make tiered sales-based milestones payments to Moffitt of up to an aggregate of $50.0 million. With respect to each of the equity and sales milestones described above, TIL products include any pharmaceutical, biopharmaceutical or biotechnology TIL product that is developed by us or Moffitt and is advanced into clinical development under an IND sponsored by Moffitt.

Components of Our Results of Operations

Revenue

Collaboration Revenue

We enter into collaboration arrangements that may include the receipt of payments for up-front fees, success-based milestones, option exercises, intellectual property rights, research services, product supplies, and royalties on any future sales of commercialized products that result from the collaborations.

AbbVie Biotechnology Ltd.

In September 2017, we entered into a research, option, and license agreement, or the AbbVie Agreement, with AbbVie Biotechnology Ltd., or AbbVie, for the development of up to three pharmaceutical product candidates, based on our engineered MG1 Maraba virus. The AbbVie Agreement terminated in June 2021. One of the product candidates would carry the tumor-associated antigen MAGEA3, and the other two product candidates would carry a tumor-associated antigen selected by AbbVie, a tumor-associated immune agent selected by us or AbbVie, or both an antigen and immune agent. We were primarily responsible for funding the initial research and development activities for each product candidate, which consisted of the completion of two Phase 1/2 clinical trials for MG1-MAGEA3 and the research and preclinical development of the other two product candidates. Pursuant to the AbbVie Agreement, AbbVie paid us a nonrefundable up-front payment of $90.0 million. The AbbVie Agreement accounted for 0% and 69% of our total collaboration revenue for the years ended December 31, 2022 and 2021, respectively.

Takeda Pharmaceutical Company Limited

In November 2019, we entered into a discovery, collaboration and license agreement, or the Takeda Agreement, with Millennium Pharmaceuticals, Inc. (also known as Takeda Oncology), a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited, or Takeda. Under the Takeda Agreement, Takeda paid us an upfront payment of $50.0 million and an additional upfront payment of $30.0 million for the option to license up to two selected discovery candidates, with additional consideration in the low to low-mid eight figures to be paid to us by Takeda for each exercise of such option.

The Takeda Agreement accounted for 100% and 31% of our total collaboration revenue for the years ended December 31, 2022 and 2021, respectively.

On June 13, 2022, Takeda provided six months' written notice to terminate the development program in accordance with its termination for convenience rights, with such termination being effective as of December 13, 2022. Upon the effective termination date of December 13, 2022, Takeda's co-exclusive license to TBio-6517 terminated and we are no longer obligated to pursue development of TBio-6517. On January 6, 2023, Takeda provided six months' written notice to terminate the remainder of the Takeda Agreement, with such termination being effective as of July 6, 2023. As of January 31, 2023, we have ceased all work under the Takeda Agreement and we have concluded that there will be no remaining obligations under the Takeda Agreement as of the effective date of termination of the Takeda Agreement in its entirety.

In determining the appropriate amount of revenue to be recognized as we fulfilled our obligations under our agreements, we performed the following steps: (1) identification of the promised goods or services in the contract; (2) determination of whether the promised goods or services are performance obligations, including whether they are distinct in the context of the contract; (3) measurement of the transaction price, including the constraint on variable consideration; (4) allocation of the transaction price to the performance obligations based on estimated selling prices; and (5) determining the pattern of recognition of revenue when we satisfy each performance obligation.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of external and internal costs incurred for our research and development activities, including development of our platform, our product discovery efforts and the development of our future product candidates. We expense research and development costs as incurred.

External costs include:

- clinical trial expenses, including costs of third-party CROs and costs of performing toxicity studies;
- expenses to acquire technologies to be used in research and development;
- manufacturing scale-up expenses and the cost of acquiring and manufacturing preclinical and clinical materials and developing manufacturing processes; and
- costs related to compliance with regulatory requirements.

Internal costs include:

- employee-related expenses, which include salaries, benefits and stock-based compensation for employees engaged in research and development functions; and
- facility-related and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation and amortization expense and expenses related to other general support services and supplies.

Costs for external development activities are recognized based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors and our clinical investigative sites. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our consolidated financial statements as prepaid or accrued research and development expenses. Non-refundable advance payments for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses and expensed as the related goods are delivered or the services are performed.

The successful development of our product candidates is highly uncertain. We plan to substantially increase our research and development expenses for the foreseeable future as we continue our existing clinical trials, initiate future clinical trials for our product candidates, continue to discover and develop additional product candidates, improve the efficiency and scalability of our manufacturing processes and supply chain and build our in-house process development, analytical and manufacturing capabilities. Therefore, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the development and commercialization of any of our product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from the sale of our current or any future product candidates, if approved. This is due to the numerous risks and uncertainties associated with developing product candidates, including the uncertainty of:

- the scope, rate of progress and expenses of our planned clinical trials and other research and development activities;
- successful patient enrollment in, and the initiation and completion of, clinical trials including the impact of patient discontinuations and the number and location of clinical sites;
- establishing an appropriate safety profile of our product candidates;
- whether our product candidates show safety and efficacy in our clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- making arrangements with third-party manufacturers for the supply of materials to support our planned clinical trials and establishing commercial manufacturing capabilities for the potential manufacture of approved products, if any;
- obtaining, maintaining, protecting and enforcing patent and trade secret protection and regulatory exclusivity for our product candidates;
- commercializing product candidates, if and when approved, whether alone or in collaboration with others; and
- the continued acceptable safety profile of the products following any regulatory approval.

Any changes in the outcome of any of these variables with respect to the development of our product candidates in preclinical and clinical development could mean a significant change in the costs and timing associated with the development of these product candidates. We may never succeed in achieving regulatory approval for any of our product candidates. We may obtain unexpected results from our clinical trials. We may elect to discontinue, delay or modify clinical trials of some product candidates or focus on others. For example, if the FDA or comparable foreign regulatory authority were to delay our planned clinical trials or require us to conduct pre-clinical or clinical trials beyond those that we currently expect or if we experience significant delays in enrollment in any of our planned clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development of that product candidate.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs, allocated expenses and other expenses for outside professional services, including legal, intellectual property, human resources, audit and accounting services. Personnel costs consist of salaries, bonuses, benefits and stock-based compensation.

We expect our general and administrative expenses will increase during the next few years to support our continued research and development activities of our product candidates and associated expenses with operating as a public company, including expenses related to compliance with the rules and regulations of the SEC and Nasdaq, insurance expenses, audit expenses, investor relations activities, Sarbanes-Oxley Act compliance expenses, increased costs related to any hiring of additional personnel and fees to outside consultants, lawyers and accountants, among other administrative expenses and professional services.

Other Income (Expense), Net

Other income (expense), net consists primarily of interest income earned on our short-term investments and foreign currency remeasurement gains and losses.

Results of Operations

Comparison of the Year Ended December 31, 2022 and 2021

The following tables set forth our results of operations during the years ended December 31, 2022, and 2021 (*in thousands*):

	For the Year Ended December 31,		
	2022	2021	Change ($)
Collaboration revenue	$ 73,300	$101,293	$ (27,993)
Operating expenses:			
Research and development	86,703	54,754	31,949
General and administrative	18,223	13,546	4,677
Total operating expenses	104,926	68,300	36,626
Income (loss) from operations	(31,626)	32,993	(64,619)
Other income (expense), net	933	708	225
Provision for income taxes	(141)	(432)	(291)
Net income (loss)	$ (30,834)	$ 33,269	$ (64,103)

Collaboration Revenue

Collaboration revenue was $73.3 million and $101.3 million during the years ended December 31, 2022 and 2021, respectively, a decrease of $28.0 million, or 27.6%. The change was primarily due to the recognition of deferred revenue as a result of the terminations of the AbbVie Agreement in 2021 and the Takeda Agreement in 2022.

Research and Development Expenses

The following table summarizes our research and development expenses during the years ended December 31, 2022 and 2021 *(in thousands)*:

	Year Ended December 31, 2022	Year Ended December 31, 2021
Pre-clinical research and development	$ 19,530	$ 8,269
Manufacturing	42,221	27,981
Personnel related	18,431	13,735
Clinical and regulatory	6,521	4,769
Total research and development	$ 86,703	$ 54,754

Research and development expenses were $86.7 million and $54.8 million during the years ended December 31, 2022 and 2021, respectively, an increase of $31.9 million, or 58.4%. The increase was due primarily to an increase of $10.9 million in preclinical research and development costs, an increase of $14.5 million in manufacturing expenses, an increase of $4.7 million in personnel-related costs, and an increase of $1.8 million in clinical and regulatory expenses. Based on stopping research and development activities on our RIVAL-01 program under the Takeda Agreement, we expect research and development expenses to decline in the near term; however, we expect our research and development expenses to increase in the long term as we advance the development of TIDAL-01.

General and Administrative Expenses

General and administrative expenses were $18.2 million and $13.5 million during the years ended December 31, 2022 and 2021, respectively, an increase of $4.7 million, or 34.5%. The increase was due primarily to increases of $0.7 million in professional service fees, $2.4 million in facility, office and other operating costs due to the new San Diego office lease and $1.6 million in personnel-related costs due to an increased headcount and stock-based compensation costs. We anticipate that general and administrative expenses will continue to increase in the future due to an increase in expenses related to activities associated with operating as a public company.

Other Income (Expense), Net

Other income (expense), net was $0.9 million and $0.7 million during the years ended December 31, 2022 and 2021, respectively, an increase of $0.2 million, or 31.8%. The increase was primarily related to an increase in interest income, net of $0.6 million, a gain on sale of assets in 2022 of $0.4 million and a decrease of $0.4 million in realized foreign exchange gains.

Liquidity and Capital Resources

Based on our expected operating losses and negative cash flows, we believe there is substantial doubt about our ability to continue as a going concern for 12 months after the date the consolidated financial statements for the year ended December 31, 2022 included elsewhere in this prospectus were issued. Our ability to continue as a going concern is dependent upon our ability to raise additional funding. We intend to raise additional capital through equity offerings, debt financings or other capital sources, including potential collaborations, licenses and other similar arrangements. However, we may not be able to secure additional financing in a timely manner or on favorable terms, if at all. Furthermore, if we issue equity securities to raise additional funds, our existing stockholders may experience dilution, and the new equity securities may have rights, preferences and privileges senior to those of our existing stockholders. If we raise additional funds through collaboration, licensing or other similar arrangements, we may need to relinquish valuable rights to our potential products on terms that are not favorable to use. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may need to significantly delay, scale back or discontinue the development or future commercialization of one or more of our product candidates, if approved, or one or more of our other research and development initiatives and we may need to undertake additional workforce reductions or restructuring activities in the future. Any of the above events could adversely affect our business, results of operations and financial condition and cause the price of our common stock to decline.

Sources of Liquidity

In December 2018, we completed a corporate reorganization pursuant to which Turnstone Biologics Inc. merged with and into Turnstone Biologics Corp., a newly formed Delaware corporation, as the successor company. As a result of this reorganization, we changed our domicile from the country of Canada to the State of Delaware. Our headquarters are located in San Diego, California and we operate as one segment. Since our inception, we have devoted substantially all of our efforts and financial resources to organizing and staffing our

company, business planning, raising capital, discovering product candidates and securing related intellectual property rights and conducting research and development activities for our Selected TIL programs and product candidates. We do not have any products approved for sale, we have not generated any revenue from product sales, and we have incurred net losses since commencement of our operations through December 31, 2022, except for the year ended December 31, 2021. We did not incur net losses in 2021 as a result of our receipt of milestone revenue from the AbbVie Agreement and Takeda Agreement. We have funded our operations primarily through the sale of our convertible preferred stock and revenue from certain of our collaboration agreements. Since our inception, we have raised an aggregate of $171.9 million of gross proceeds from the issuance and sale of shares of our convertible preferred stock and $190.0 million in collaboration revenue. As of December 31, 2022 and March 31, 2023, we had cash, cash equivalents and short-term investments of million and $ million, respectively.

We have incurred a significant operating loss in the current year and expect to continue to incur significant operating losses for the foreseeable future. Our net loss was $30.8 million for the year ended December 31, 2022 and we had $33.3 million of net income for the year ended December 31, 2021. Our net loss was $ million and $ million for the three months ended March 31, 2023 and 2022, respectively. As of December 31, 2022 and March 31, 2023, we had an accumulated deficit of $121.6 million and $ million, respectively. Substantially all of our operating losses result from expenses incurred in our research and development programs and from general and administrative costs associated with our operations. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and eventual commercialization of one or more of our current or future product candidates, and on our ability to enter into collaborations, strategic partnerships and alliances or marketing, distribution or licensing arrangements with third parties.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing activities, particularly as we continue to advance our product candidates and programs through preclinical and clinical development. Furthermore, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs which could materially harm our business.

Our future capital requirements will depend on many factors, including:

- the costs of conducting clinical trials, including the clinical development of our TIDAL-01 product candidate;
- the progress of preclinical development and clinical trials of our current earlier-stage and future product candidates;
- the costs of manufacturing;
- the scope, progress, results and costs of discovery, preclinical development, laboratory testing and clinical trials for other potential product candidates we may develop, if any;
- the costs, timing and outcome of regulatory review of our product candidates;
- our ability to establish and maintain collaborations and partnerships on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under any collaboration agreements we might have at such time;
- the costs of preparing, filing and prosecuting patent applications, obtaining, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the cost of operating as a public company;

- the costs and timing of future commercialization activities, if any, including product sales, marketing, manufacturing and distribution, for any of our product candidates for which we receive marketing approval;
- our ability to achieve sufficient market acceptance, adequate coverage and reimbursement from third-party payors and adequate market share; and
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

As of December 31, 2022 and March 31, 2023, we had cash, cash equivalents and short-term investments of $82.1 million and $ million, respectively. We believe that the anticipated net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, will enable us to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. We anticipate that we will require additional capital as we seek regulatory approval of our product candidates and if we choose to pursue in-licenses or acquisitions of other product candidates. If we need to raise additional capital to fund our operations, funding may not be available to us on acceptable terms, or at all. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of, or suspend one or more of our preclinical studies, clinical trials, research and development programs, or commercialization efforts. If we receive regulatory approval for our current or future product candidates, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution, depending on where we choose to commercialize.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interests may be diluted, and the terms of these securities may include liquidation or other preferences that could adversely affect your rights as a common stockholder. Debt financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business.

If we raise funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may need to significantly delay, scale back or discontinue the development or future commercialization of one or more of our product candidates, if approved, or one or more of our other research and development initiatives and we may need to undertake additional workforce reductions or restructuring activities in the future. Any of the above events could adversely affect our business, results of operations and financial condition and cause the price of our common stock to decline.

Cash Flows

The following table summarizes our cash flows for the years ended December 31, 2022, and 2021:

	Year Ended December 31,	
	2022	2021
	(in thousands)	
Cash used in operating activities	$(71,062)	$(45,629)
Cash used in investing activities	(14,932)	(3,348)
Cash provided by (used in) financing activities	(2,656)	79,954
Net increase (decrease) in cash and cash equivalents	$(88,650)	$ 30,977

Cash Flows from Operating Activities

Cash used in operating activities for the year ended December 31, 2022 was $71.1 million, primarily due to our net loss of $30.8 million and decrease in our net operating assets and liabilities of $58.0 million, which included changes in deferred revenue of $53.1 million, partially offset by changes in stock based compensation and Moffitt performance awards of $6.4 million, depreciation and amortization expense of $3.9 million and change in the fair value of contingent consideration liabilities of $7.0 million.

Cash used in operating activities for the year ended December 31, 2021 was $45.6 million, primarily due to the decrease in our net operating assets and liabilities of $85.8 million which was partially offset by our net income of $33.3 million, stock based compensation of $2.6 million, change in fair value of contingent consideration liability of $1.7 million and depreciation and amortization expense of $1.4 million.

Cash Flows from Investing Activities

Cash used in investing activities for the year ended December 31, 2022 was $14.9 million, due primarily to the maturities of $49.8 million of short term investments, the purchase of short term investments of $59.5 million, and $5.2 million in purchases of property and equipment.

Cash used in investing activities for the year ended December 31, 2021 was $3.3 million, due primarily to the maturities of $41.4 million of short term investments, the purchase of short term investments of $41.4 million, and $3.4 million in purchases of property and equipment.

Cash Flows from Financing Activities

Net cash used in financing activities for the year ended December 31, 2022 was $2.7 million, due primarily to the $0.2 million received from the exercise of stock options and $2.8 million payment of contingent consideration related to Myst's achievement of the second milestone under the Myst Merger Agreement due to the acceptance by the FDA of an IND filed by, on behalf of or for the benefit of us.

Net cash provided by financing activities for the year ended December 31, 2021 was $80.0 million, due primarily to the $79.6 million net proceeds from the sale and issuance of Series D preferred stock and the $0.3 million received from the exercise of stock options.

Contractual Obligations and Commitments

We enter into contracts in the normal course of business with CROs and CMOs for clinical trials, preclinical research studies and testing, manufacturing and other services and products for operating purposes. These contracts provide for termination at the request of either party with less than one year notice, and therefore we believe that our non-cancelable obligations under these agreements are not material. We additionally have

contractual obligations for our operating leases for our corporate headquarters and office and laboratory spaces. These obligations are further described in Note 12 to our consolidated financial statements and Note to our unaudited interim consolidated financial statements, each included elsewhere in this prospectus. We are also party to certain collaboration and license agreements, which contain a number of contractual obligations. Those contractual obligations may entitle us to receive, or may obligate us to make, certain payments. The amount and timing of those payments are unknown or uncertain as we are unable to estimate the timing or likelihood of the events that will obligate those payments.

We have milestones, royalties, and/or other payments due to third parties under our existing license and collaboration agreements. See the section titled "Business—Collaboration Agreements" and Note 6 to our audited consolidated financial statements and Note to our unaudited interim consolidated financial statements, each included elsewhere in this prospectus. We could not estimate when such payments will be due and none of these events were probable to occur as of December 31, 2022 and 2021.

Critical Accounting Polices and Estimates

The preparation of our financial statements and related disclosures in conformity with generally accepted accounting principles in the United States and our discussion and analysis of our financial condition and operating results require us to make judgments, assumptions and estimates that affect the amounts reported in our consolidated financial statements and accompanying notes. Our significant accounting policies and methods used in preparation of our consolidated financial statements are described in Note 2 to our audited consolidated financial statements and Note to our unaudited interim consolidated financial statements, each included elsewhere in this prospectus. We base our estimates on historical experience and on various other assumptions we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates, and such differences may be material.

We believe that the critical accounting policies and estimates discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving our judgments and estimates.

Revenue Recognition

We entered into collaboration arrangements that may include the receipt of payments for up-front license fees, success-based milestone payments, full time equivalent based payments for research services, and royalties on any future sales of commercialized products that result from the collaborations.

Effective January 1, 2017, we adopted the provisions of ASC Topic 606, *Revenue from Contacts with Customers*, or ASC 606. Under ASC 606, an entity recognizes revenue when our customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of ASC 606, we perform the following five steps: (i) identification of the contract(s) with the customer, (ii) identification of the promised goods or services in the contract and determination of whether the promised goods or services are performance obligations, (iii) measurement of the transaction price, (iv) allocation of the transaction price to the performance obligations, and (v) recognition of revenue when (or as) we satisfy each performance obligation. We only apply the five-step model to contracts when it is probable that the entity will collect consideration it is entitled to in exchange for the goods or services it transfers to the customer.

We account for a contract with a customer that is within the scope of ASC 606 when all of the following criteria are met: (i) the arrangement has been approved by the parties and the parties are committed to perform their respective obligations, (ii) each party's rights regarding the goods or services to be transferred can be identified, (iii) the payment terms for the goods and services to be transferred can be identified, (iv) the

arrangement has commercial substance and (v) collection of substantially all of the consideration to which we will be entitled in exchange for the goods or services that will be transferred to the customer is probable.

We estimate the transaction price based on the amount of consideration that we expect for transferring the promised goods or services in the contract. The consideration may include both fixed consideration and variable consideration. At the inception of each arrangement that includes variable consideration, we evaluate the amount of the potential payments and the likelihood that the payments will be received. We utilize either the most likely amount method or expected value method to estimate the transaction price based on which method better predicts the amount of consideration expected to be received. If it is probable that a significant revenue reversal would not occur, the variable consideration is included in the transaction price.

For arrangements that include development and regulatory milestone payments, we evaluate whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within our control or the licensee's control, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. At the end of each reporting period, we re-evaluate the probability of achievement of such milestones and any related constraint, and if necessary, adjusts the estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect collaboration revenue and net income (loss) in the period of adjustment.

For sales-based royalties, including milestone payments based on the level of sales, we determine whether the sole or predominant item to which the royalties relate is a license. When the license is the sole or predominant item to which the sales-based royalty relates, we recognize revenue at the later of: (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

We allocate the transaction price based on the estimated standalone selling price. We must develop assumptions that require judgment to determine the standalone selling price for each performance obligation identified in the contract. We utilize key assumptions to determine the standalone selling price, which may include other comparable transactions, pricing considered in negotiating the transaction and the estimated costs. Certain variable consideration is allocated specifically to one or more performance obligations in a contract when the terms of the variable consideration related to the satisfaction of the performance obligation and the resulting amounts allocated to each performance obligation are consistent with the amounts we would expect to receive for each performance obligation.

For performance obligations, which consist of licenses and other promises, we utilize judgment to assess the nature of the combined performance obligation in order to determine whether the combined performance obligation is satisfied over time or at a point in time. We determine the appropriate method of measuring progress of combined performance obligations satisfied over time for purposes of recognizing revenue determined on a contract by contract basis. We evaluate the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. If the license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we will recognize revenue from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license.

We receive payments from customers based on billing schedules established in each contract. Up-front payments and fees are recorded as deferred revenue upon receipt or when due until we perform our obligations under these arrangements. Amounts are recorded as accounts receivable when our right to consideration is unconditional.

Stock-Based Compensation

We measure the cost of employee, nonemployee and director services received in exchange for an award of equity instruments based on the fair value of the award on the date of grant and recognizes the related expense over the period during which the employee, nonemployee or director is required to provide service in exchange for the award on a straight-line basis.

We estimate the fair value of each award on the date of grant using the Black-Scholes option -pricing model. This model requires the use of highly subject assumptions to determine the fair value of each stock-based award, including:

- *Fair value of common stock*. See the subsection titled "—Determination of the Fair Value of Common Stock" below.
- *Expected term*. The expected term represents the period that the stock-based awards are expected to be outstanding. The expected term for our stock options was calculated based on the weighted-average vesting term of the awards and the contract period, or simplified method.
- *Expected volatility*. Since we are not yet a public company and do not have any trading history for our common stock, the expected volatility was estimated based on the average historical volatilities of common stock of comparable publicly traded entities over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on their size, stage of their life cycle or area of specialty. We will continue to apply this process until enough historical information regarding the volatility of our stock price becomes available.
- *Risk-free interest rate*. The risk-free interest rate is based on a treasury instrument whose term is consistent with the expected term of the stock options.
- *Expected dividend yield*. We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we used an expected dividend yield of zero.

The Black-Scholes option pricing model requires inputs based on certain subjective assumptions, including (a) the expected stock price volatility, (b) the expected term of the award, (c) the risk-free interest rate and (d) expected dividends. Due to the lack of a public market for our common stock and lack of company- specific historical and implied volatility data, we have based our computation of expected volatility on the historical volatility of a representative group of public companies with similar characteristics to us, including stage of product development and life science industry focus. The historical volatility is calculated based on a period of time commensurate with the expected term. We use the simplified method as prescribed by the SEC Staff Accounting Bulletin No. 107, *Share-Based Payment*, to calculate the expected term for options granted to our employees as it does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. The expected term is applied to the stock option grant group as a whole, as we do not expect substantially different exercise or post-vesting termination behavior among our employee population. The risk-free interest rate is based on a treasury instrument whose term is consistent with the expected term of the stock options. The expected dividend yield is assumed to be zero as we have never paid dividends and has no current plans to pay any dividends on our common stock.

See Note 2 to our audited consolidated financial statements and Note to our unaudited interim consolidated financial statements, each included elsewhere in this prospectus, for information concerning certain of the specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options granted in the periods presented.

As of December 31, 2022, there was $8.9 million of total unrecognized stock-based compensation expense related to our granted options, which we expect to recognize over a remaining weighted-average period of 2.7 years.

The intrinsic value of all outstanding stock options as of March 31, 2023 was approximately $ million, based on the assumed initial public offering price of $ per share, which is the midpoint of the

estimated offering price range set forth on the cover page of this prospectus, of which approximately $ million related to vested stock options, and approximately $ million related to unvested stock options.

Determination of the Fair Value of Common Stock

There are significant judgments and estimates inherent in the determination of the fair value of our common stock. These estimates and assumptions include a number of objective and subjective factors, including external market conditions, the prices at which we sold shares of our convertible preferred stock, the superior rights and preferences of securities senior to our common stock at the time of, and the likelihood of, achieving a liquidity event, such as an initial public offering or sale of the company.

As there has been no public market for our common stock prior to this offering, the estimated fair value of our common stock underlying our stock-based awards has been determined by our board of directors as of each option grant date with input from management, considering our most recently available third-party valuations of common stock and our board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, or the Practice Aid. In valuing our common stock, the equity value of the business was determined using the backsolve method, a form of the subject company transaction method, wherein the equity value for a privately held company is derived from a recent transaction in our securities. The value is then allocated using the hybrid method allocation methodology. For grants made prior to September 30, 2018, in accordance with the Practice Aid, we determined the option pricing method, or OPM, was the most appropriate method for determining the fair value of our common stock based on our stage of development and other relevant factors. For grants made subsequent to September 30, 2018, in accordance with Practice Aid, we used a hybrid method, which is a hybrid between the OPM and the probability-weighted expected return method, or PWERM. The hybrid method is a combination of the PWERM and OPM. The OPM allocates the overall company value to the various share classes based on differences in liquidation preferences, participation rights, dividend policy and conversion rights, using a series of call options. The call right is valued using a Black-Scholes option pricing model. The PWERM employs additional information not used in the OPM, including various market approach calculations depending upon the likelihood of various discrete future liquidity scenarios, such as an initial public offering or sale of the company, as well as the probability of remaining a private company. In a hybrid method, various exit scenarios are analyzed. A discount for lack of marketability of our common stock is then applied to arrive at an indication of value for the common stock.

In addition to considering the results of these third-party valuations, we considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, which may be a date later than the most recent third-party valuation date, including:

- the prices of our convertible preferred stock sold to or exchanged between outside investors in arm's length transactions, and the rights, preferences and privileges of our convertible preferred stock as compared to those of our common stock, including the liquidation preferences of our convertible preferred stock;
- the progress of our research and development efforts, including the status of preclinical studies and ongoing and planned clinical trials for our product candidates;
- our stage of development and our business strategy, and material risks related to our business;
- external market conditions affecting the biotechnology industry, and trends within the biotechnology industry;
- our financial position, including cash on hand, and our historical and forecasted performance and results of operations;
- the lack of an active public market for our common stock and our convertible preferred stock;

- the likelihood of achieving a liquidity event for the holders of our common stock, such as an initial public offering, or a sale of our company, given prevailing market conditions;
- the achievement of enterprise milestones, including entering into collaboration and license agreements;
- the analysis of initial public offerings and the market performance of similar companies in the biotechnology industry; and
- the economy in general.

We also performed a retrospective review of common stock fair value when preparing for our financial statements audits and considered the amount of time between the independent third-party valuation dates and the grant dates. We performed an interpolation of the fair value between the two valuation dates if we concluded that a significant change in valuation had occurred between the previous valuation and the grant date due to significant business or market events. The incremental stock-based compensation expense recorded as a result of the retrospective review was insignificant.

The assumptions underlying these valuations represented management's best estimate, which involved inherent uncertainties and the application of management's judgment. As a result, if we used significantly different estimates and assumptions, our stock-based compensation expense could be materially different.

Following the completion of this offering, the fair value of our common stock will be determined based on the quoted market price of our common stock. In connection with this offering, all outstanding shares of our convertible preferred stock will be converted into shares of our common stock.

Contingent Consideration

Consideration paid related to the Myst Merger Agreement may include potential future payments that are contingent upon our achieving certain milestones in the future. Contingent consideration liabilities are measured at their estimated fair value as of the date of the consolidated balance sheets using a probability-based income approach based on the monetary value of the milestone payment discounted for the likelihood of achieving the milestone and a present value factor based on the timing of when the milestone is expected to be achieved. We evaluated each contingent consideration payable and determined that, in each case, ASC 480 was applicable.

Contingent consideration liabilities expected to be settled within 12 months after the balance sheet date are presented in current liabilities, with the non-current portion recorded under long term liabilities in the consolidated balance sheets. Changes in the fair value of the contingent consideration are recorded as research and development expenses in the consolidated statement of operations.

Accounting Pronouncements Recently Adopted

See Note 2 to our audited consolidated financial statements and Note to our unaudited interim consolidated financial statements, each included elsewhere in this prospectus, for a description of recent accounting pronouncements applicable to our financial statements.

Quantitative and Qualitative Disclosures about Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and interest rates. We are exposed to market risks in the ordinary course of our business. We currently have no outstanding debt or related interest rate risk. Our primary exposure to market risk is related to changes in foreign currency exchange rates, mainly relating to Turnstone Canada. In addition, we contract with certain vendors that are located in Europe and Australia, and the payments under such contracts are denominated in foreign currencies. We are subject to fluctuations in foreign currency rates in connection with these agreements. We do not currently hedge our foreign currency exchange rate risk. As of December 31, 2022, our

liabilities denominated in foreign currencies were not material. Accordingly, we do not believe a 10% increase or decrease in current exchange rates would have a material effect on our financial results.

Emerging Growth Company and Smaller Reporting Company Status

The JOBS Act permits an "emerging growth company" such as us to take advantage of reduced reporting requirements that are otherwise applicable to public companies and also an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected to not "opt out" of this provision and, as a result, we will adopt new or revised accounting standards at the time private companies adopt the new or revised accounting standard and will do so until such time that we either (i) irrevocably elect to "opt out" of such extended transition period or (ii) no longer qualify as an emerging growth company.

We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year following the fifth anniversary of the completion of this offering, (ii) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more, (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous rolling three-year period or (iv) the date on which we are deemed to be a large accelerated filer under the Exchange Act.

We are also a "smaller reporting company" as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our ordinary shares held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than $100.0 million during the most recently completed fiscal year and our ordinary shares held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

BUSINESS

We are a clinical stage biotechnology company focused on developing new medicines to treat and cure patients with solid tumors. Approved immunotherapies represent a significant advancement in the treatment of solid tumors, but many patients either do not respond or experience relapsed disease following an initial response. We believe the most significant challenge to creating curative immunotherapies in these patients is the low numbers of T cells that can recognize and attack the tumor, which we refer to as tumor-reactive T cells. To address this problem, we are pioneering a differentiated approach to tumor infiltrating lymphocytes, or TILs, a clinically validated technology for treating solid tumors. We are developing next generation TIL therapies by selecting the most potent and tumor-reactive T cells, which we refer to as Selected TILs. Unlike other approaches that rely on standard "bulk TILs" that have demonstrated benefit only in limited tumor types, our Selected TILs are designed to extend the therapeutic benefit of TILs across the majority of solid tumors. We have initiated two Phase 1 clinical trials for our lead Selected TIL product candidate, TIDAL-01, for the treatment of breast cancer, colorectal cancer, uveal melanoma and other non-cutaneous and cutaneous melanomas. We intend to provide an initial clinical update across these two trials in . We are also actively advancing our preclinical pipeline programs including TIDAL-02, our next Selected TIL program, and our TIDAL-01 and viral immunotherapy combination program.

Solid tumors present a major burden to society, with high mortality and poor outcomes associated with more advanced disease. Several key factors, such as tumor heterogeneity and challenging tumor microenvironments, have made treatment of solid tumors more difficult than treatment of hematologic cancers. Immunotherapies that activate the immune system to enhance and/or create anti-tumor immune responses, such as immune checkpoint inhibitors, or ICIs, have improved outcomes for some patients. However, more than 85% of cancer patients fail to respond to ICI therapy. The effectiveness of ICIs is heavily dependent on the presence of tumor-reactive T cells that ICIs can reinvigorate, and many patients lack a sufficient number of T cells that recognize the target tumor. Therefore, we believe new treatments that can expand and enhance the patient's tumor-reactive T cells are needed.

TILs are a type of cell therapy that harness the patient's own immune cells to target their own tumors. TIL therapy involves the isolation of lymphocytes from the patient's tumor, expansion of the isolated cells outside the body, and then infusion of the cells back into the patient. TILs have the ability to penetrate, recognize, and kill cancer cells and offer potential to treat or cure solid tumors. Because TILs include an expansive breadth of lymphocytes that are specific to the patient's tumor antigens, we believe they have the potential to overcome tumor heterogeneity which often presents a significant challenge for other therapies. Clinical trials with standard "bulk TILs," the first generation of TIL therapy that involves isolation and expansion of all of the TILs in the tumor sample, have shown clinical efficacy in limited solid tumor types while demonstrating a consistent and manageable safety profile.

To date, several hundred patients in the United States have received bulk TIL therapies, with the greatest success observed in metastatic melanoma. In metastatic melanoma patients refractory to PD-(L)1 treatments, bulk TIL monotherapy has yielded objective response rates of approximately 30% to 50%, with complete response rates ranging from approximately 5% up to 20%. Beyond metastatic melanoma, bulk TIL therapy has demonstrated therapeutic potential in a limited number of solid tumors, including squamous cell carcinoma of the head and neck, cervical cancer, and non-small cell lung cancer. We believe that the therapeutic benefit of TILs is driven by the subset of tumor-reactive T cells, and that the key limitation for bulk TILs is the small number and proportion of tumor-reactive T cells that make up the bulk TIL product (reported median less than 3%). We believe increasing the proportion and diversity of tumor-reactive T cells in a TIL product will generate greater tumor killing and expand the therapeutic benefit of TILs to a greater breadth of tumor types, where bulk TILs have not shown clinical benefit to date.

Our Solution: Selected TILs

We are developing next generation TIL therapies designed to drive therapeutic benefit and curative outcomes across multiple solid tumors. Our innovative Selected TIL approach focuses on selecting and

expanding the most potent tumor-reactive T cells to overcome the limitations of bulk TILs. This approach expands upon work conducted in academia that demonstrated improved clinical responses for certain selected TILs in solid-tumor types where bulk TILs have not shown clinical benefit. We are leveraging this work to establish a standardized manufacturing process for large scale production of our Selected TILs.

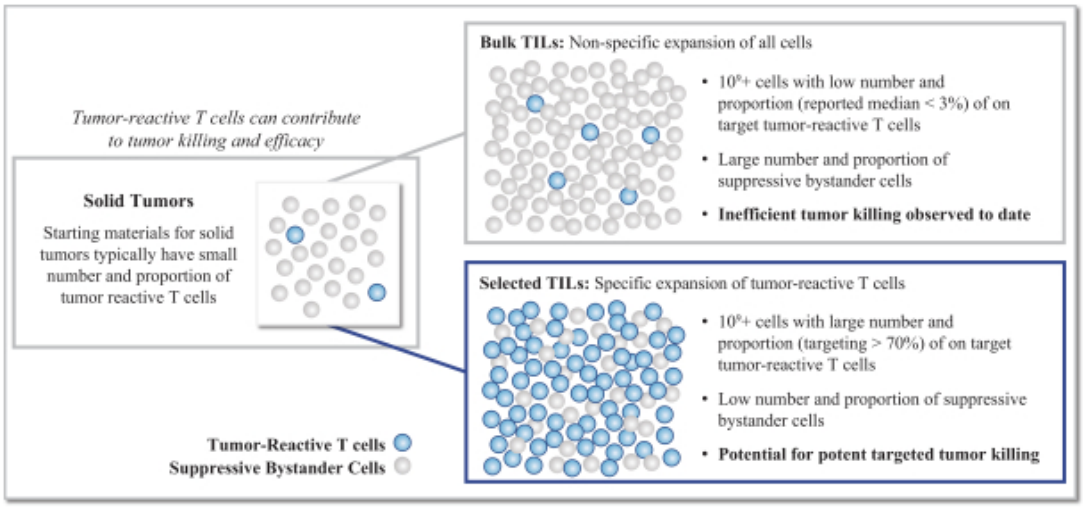
Our Selected TIL approach employs the following foundational principles to yield the greatest number and proportion of tumor-reactive T cells in our TIL product candidates:

(1) *Unbiased identification of patient-specific tumor antigens:* We seek to identify the most comprehensive set of patient-specific tumor antigens. We use an unbiased identification process that aims to find and capture the greatest diversity of antigens with the potential to drive the most robust T cell response. Our proprietary approach is unlike other TIL products that are biased toward a specific subset or class of antigen(s), which may miss relevant tumor antigens or focus on the wrong targets.

(2) *Selection of greatest breadth of tumor-reactive T cells from patient extracted TILs:* Our goal is to capture and isolate the greatest number and proportion of a patient's tumor-reactive T cells that have the potential to attack and destroy heterogeneous solid tumors. We aim to select the greatest diversity of T cells by using a function-based screening process that confirms reactivity to the identified patient-specific tumor antigens rather than relying on a bioinformatics-based prediction algorithm that may not be truly predictive.

(3) *Expansion of tumor-reactive T cells and removal of non-tumor-reactive bystander cells:* We expand our selected tumor-reactive TIL population to magnitudes consistent with bulk TIL products and actively remove unnecessary bystander cells. This selective expansion results in a substantialy higher absolute number and proportion of tumor-reactive T cells in the final product in comparison to the relatively infrequent tumor-reactive T cells that are routinely found in bulk TIL.

The potential advantages of Selected TILs over bulk TILs are depicted in the figure below.



Supporting Clinical Evidence

We believe the growing body of prospective and translational clinical data in the TIL field supports the potential of our Selected TIL approach to provide superior clinical benefit relative to bulk TILs. Studies have demonstrated that the benefit of bulk TILs is driven by a small subset of tumor-reactive T cells in the bulk TIL product. Furthermore, clinical studies in academic centers utilizing rudimentary selection strategies for

tumor-reactive T cells have demonstrated positive outcomes in challenging solid tumors, where bulk TILs have had limited to no success, including lung, breast, colorectal, and bile duct cancers.

Building a Product Pipeline to Further Enhance the Quality and Function of Selected TILs

Our Selected TIL approach sets us apart from others in the industry that are utilizing bulk TILs, including newer bulk TIL approaches that introduce genetic modifications and culture media additives to enhance TIL quality and function. We believe that without the optimal starting population of tumor-reactive T cells, further enhancements or modifications to bulk TILs are unlikely to succeed in extending therapeutic benefit beyond the limited tumor types where bulk TILs have already shown clinical efficacy. We are also expanding our product pipeline by making additional modifications to our proprietary Selected TILs and deploying them in differentiated combination strategies to further enhance TIL quality and function.

Modifications to Enhance TIL Quality

We are developing pipeline programs where we are evaluating enhanced culture conditions during the TIL production process to maintain and further improve TIL quality *ex vivo*. These enhanced culture conditions are designed to incorporate a mix of cytokines with the potential to rejuvenate dysfunctional and/or exhausted T cells.

Additionally, we plan to introduce functional genetic modifications into our pipeline programs that may drive potential for more sustained TIL quality and persistence *in vivo*. These gene edits will be designed to modify the tumor-reactive T cells to proliferate while resisting exhaustion post infusion, minimize their dependence on exogenous IL-2 for *in vivo* proliferation, and maintain their potential to kill tumors in suppressive tumor microenvironments. We are currently evaluating and prioritizing clinically informed targets for these genetic modifications.

Virus Combinations

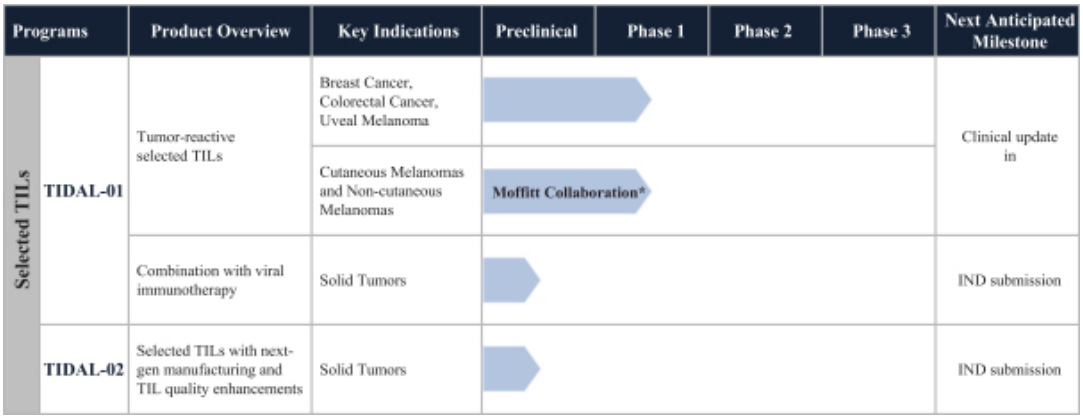
Viral immunotherapy is a therapeutic modality with widespread potential to drive and modulate immune responses to solid tumors. Many viruses have inherent oncolytic activity that can be modulated through genetic engineering to enhance potency and safety. These viruses preferentially infect, replicate within, and kill malignant tumor cells, and can induce broad immune responses. Viral immunotherapies are designed to convert immunologically unresponsive “cold” tumor microenvironments to more reactive “hot” tumor microenvironments and thereby enhance the activity of other immunotherapies.

We are strongly positioned to combine our Selected TIL products with our proprietary viral immunotherapies utilizing two distinct approaches:

- viral immunotherapy pre-treatment (prior to TIL extraction): optimize TIL harvest and broaden access to indications that are currently less amenable to generating effective TIL products; and
- viral immunotherapy post-treatment (following delivery of the TIL product): optimize TIL trafficking and function and further deepen the response and durability of our TIL therapies.

Our Pipeline

We believe that our Selected TIL approach has the ability to drive therapeutic benefit in a wide range of solid tumors. We are developing a broad pipeline aimed at improving outcomes for patients, as illustrated in the chart below.



* Investigator sponsored trial at Moffitt Cancer Center

We are advancing TIDAL-01, our lead Selected TIL product candidate, for the treatment of multiple solid tumor indications. TIDAL-01 utilizes an unbiased identification and functional screening process to isolate and selectively expand the greatest breadth of tumor-reactive TILs from the patient's tumor. Our TIDAL-01 production process is designed to deliver at least 10^9 cells and targets greater than 70% functional and potent tumor-reactive T cells. We have initiated two Phase 1 clinical trials for TIDAL-01, including a multi-site trial for the treatment of breast cancer, colorectal cancer, and uveal melanoma, and an investigator sponsored trial with H. Lee Moffitt Cancer Center and Research Institute, Inc., or Moffitt, in both cutaneous and non-cutaneous melanomas. We intend to provide an initial clinical update across these two trials in .

Our next Selected TIL program, TIDAL-02, is being designed to encompass a next generation streamlined manufacturing process for tumor-reactive T cells and additional modifications to enhance TIL quality and function. We believe that TIDAL-02 has the potential to address the unmet medical need in solid tumor indications that are distinct from and complementary to TIDAL-01. TIDAL-02 is currently in preclinical development.

We intend to evaluate the combination of TIDAL-01 with viral immunotherapy through two approaches: (1) treatment of the patient with viral immunotherapy prior to TIL extraction to optimize TIL harvest and broaden applicability to additional tumor types with low immune cell infiltration and (2) treatment of the patient with viral immunotherapy following treatment with TIDAL-01 to optimize TIL trafficking and infiltration into solid tumors and to support the anti-tumor functions of infiltrating immune cells. We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

Our History and Team

We were founded in 2015 with the goal of developing medicines to treat and cure patients with solid tumors. Our initial scientific and technological focus was built around developing novel oncolytic viral immunotherapies. In late 2020, we acquired an innovative TIL platform and capabilities to expand our portfolio of cancer immunotherapies. Our TIL-based technology now represents the foundational therapeutic modality driving our current pipeline, though we continue to explore the synergistic potential of combining these two technologies in the pursuit of our mission.

We have assembled a team with extensive experience in complex biologics, drug discovery and development, manufacturing, and business and commercial product development.

We are led by our Chief Executive Officer, Sammy Farah, M.B.A, Ph.D., who has 20 years of scientific, business, and executive management experience in the biotechnology industry at Synthetic Genomics, Immune Design, Versant Ventures, and Merck.

Our experienced research and clinical development team brings a strong track record of advancing assets through clinical development and delivering products to the market. Our research organization is led by our Chief Scientific Officer, Stewart Abbot, Ph.D., who brings over 20 years of research and development experience in cell-based and immune-oncology products from Adicet, Fate, Celgene and GE Healthcare. Our clinical development and regulatory organization is led by our interim Chief Medical Officer, Michael Burgess, MBChB, Ph.D., who has more than 20 years of experience building research and development teams and leading strategy and execution of clinical development at SpringWorks Therapeutics, Bristol-Myers Squibb, Roche, and Eli Lilly.

Our chemistry, manufacturing, and control, or CMC, expertise and strategy is anchored in our in-house technical operations team with deep experience across bioprocess, analytical, and formulation development for complex biologics, with a proven track-record of enabling scalable, robust, and industrialized clinical and commercial manufacturing processes and supply chains. Vijay Chiruvolu, Ph.D., our interim Chief Technology Officer who leads our technical operations organization, holds over 27 years of relevant industry experience in process development, manufacturing, supply chain, and quality at Instil Bio, Kite Pharma/Gilead Sciences, Scios, Avigen, Hoffmann-La Roche, Johnson & Johnson, and Amgen, and was responsible for the manufacturing and process teams that worked towards regulatory approval of two cell therapy products, Yescarta and Tecartus.

We believe that actively exploring and forming the right partnerships to drive innovation and enhance our pipeline is core to our strategy and growth. We have assembled a team with sophisticated business development expertise and capital formation experience to drive deal making and transactional activities. Our Chief Business Officer, Saryah Azmat, brings over 10 years of experience in biopharmaceutical business development, corporate strategy and capital formation at Bristol Myers Squibb and Putnam Associates. Our Chief Legal Officer, P. Joseph Campisi, Jr., Esq., holds over 30 years of experience in mergers and acquisitions, collaborations, and securities offerings and corporate governance at Scorpion, Bristol Myers Squibb, and Pillsbury Winthrop; and Venkat Ramanan, Ph.D., our Chief Financial Officer, holds over 20 years of experience in biopharmaceutical finance and operations at Seagen, Gilead, and Amgen.

Since our inception, we have raised $361.9 million in capital, including $171.9 million from preferred stock financings and $190.0 million in non-dilutive payments from strategic partnerships. We are supported by a syndicate that includes Versant Ventures, OrbiMed, F-Prime, Sectoral Asset Management, PFM Health Sciences and other leading investors.

Our Strategy

Our mission is to develop new medicines to treat and cure patients with solid tumors using our next generation TIL therapy approach, which we believe has the potential to offer clinically meaningful and differentiated benefits to patients. We intend to achieve our mission by implementing the following strategies.

- ***Advance our lead Selected TIL product candidate, TIDAL-01, for the treatment of solid tumors***. We believe that TIDAL-01 has the potential to offer therapeutic benefit in a broad range of solid tumor types with high unmet medical need, and we are pursuing a clinical development strategy designed to demonstrate benefit in multiple indications and support an efficient path to registration. We have initiated a Phase 1b clinical trial that will evaluate TIDAL-01 in solid tumors with high unmet medical need where the benefit of bulk TILs has not been established, including breast cancer, colorectal cancer, and uveal melanoma. Additionally, we have also initiated a Phase 1 clinical trial in

collaboration with Moffitt that will evaluate TIDAL-01 in multiple types of melanoma including cutaneous melanomas, an indication where bulk TILs have been clinically validated. We believe that positive results from one or both of these clinical trials have the potential to support advancement of TIDAL-01 into registrational trials across multiple solid tumor types.

- ***Develop TIDAL-02 and continue to build our pipeline of additional Selected TIL programs.*** We are expanding our portfolio by making modifications to our Selected TILs to streamline manufacturing and further enhance the quality and function of Selected TILs. This strategy is exemplified by our second Selected TIL program, TIDAL-02. This program is intended to employ a next generation rapid selection process, culture enhancements to improve and maintain TIL quality *ex vivo*, and/or functional gene edits to ensure durable enhancements to TIL quality and persistence *in vivo*, while minimizing dependance on exogenous IL-2 for *in vivo* proliferation. We intend to advance TIDAL-02 towards the clinic for the treatment of solid tumor indications that are distinct from and complementary to TIDAL-01, with the goal of moving into earlier lines of therapy. In addition to TIDAL-02, we have ongoing research efforts to further expand our pipeline of Selected TIL programs.
- ***Leverage viral immunotherapies to further potentiate the therapeutic benefit of Selected TILs across multiple solid tumors.*** Given our oncolytic virus expertise and our proprietary viral immunotherapies, we believe we are strongly positioned to be a leading company in using viral immunotherapy to further potentiate the therapeutic benefit of TILs. We plan to advance our TIDAL-01 and viral immunotherapy combination strategy to further expand the breadth and depth of response of our Selected TILs across multiple solid tumors. We also plan to explore additional Selected TIL and viral immunotherapy combinations.
- ***Commercialize and improve patient access to Selected TIL therapy through our CMC development expertise and manufacturing capabilities.*** We are expanding our in-house cell therapy process and analytical development capacity and capability, and in parallel assembling a network of external manufacturing and supply chain partners. We have designed a robust analytical characterization program to complement clinical development, minimize regulatory hurdles and enable access to our Selected TILs for a broad range of patients with solid tumors. Our intent is that all early-clinical stage Selected TIL product candidates are built upon a CMC foundation with clear line-of-sight to commercial viability, sequenced and staged appropriately with clinical progress.
- ***Support existing and opportunistically explore future strategic partnerships and collaborations to maximize the potential of our programs.*** We are leveraging deep and strategic relationships with a number of academic collaborators, including Moffitt, to help support development of our Selected TIL approach and pipeline. Our academic relationships are designed to enable us to tap into the deep expertise within these leading institutes that have decades of research and clinical experience in developing TIL therapies. We plan to continue to explore opportunistic collaborations with both academic and industry partners to extend our reach and maximize the potential of our programs.

Background on Solid Tumors and TILs

Solid Tumors: The Greatest Unmet Medical Need in Cancer

Solid tumors contribute a massive burden to society, with high mortality and poor outcomes associated with more advanced disease. In the United States, there are over 1.6 million new solid tumor cases per year, representing approximately 90% of all cancers. Furthermore, solid tumors result in over 500,000 U.S. deaths per year. Several key factors such as tumor heterogeneity, as well as challenging tumor microenvironments, have made solid tumors very difficult to treat. Despite advances in the oncology treatment landscape, solid tumors continue to result in low rates of long-term survival in the United States. When tumors become refractory to early lines of treatment, options for further therapy are currently limited to alternate forms of chemotherapy, clinical trials of agents in development or palliative care. Each of these alternatives presents a low likelihood of cure, while generally exposing patients to safety and tolerability concerns. Once the cancer metastasizes, mortality exceeds 90%.

Overview of Current Cancer Immunotherapies and Limitations

Immuno-oncology is an evolving field of cancer therapy that is designed to harness the power of the body's own immune system to prevent, control, and eliminate cancer. Immuno-oncology therapies activate the immune system to enhance and/or create anti-cancer immune responses, as well as to overcome immunosuppressive mechanisms that cancer cells have developed. FDA approval of several immunotherapies has firmly established the role of this modality in the fight against cancer. A few of the leading immunotherapies include ICIs and adoptive cell therapy, or ACT.

Immune Checkpoint Inhibitors

The development of ICIs represented a breakthrough for the treatment of various cancers. Immune checkpoints act as gatekeepers of immune responses, down-regulating T cell activity to prevent the destruction of healthy cells. However, cancer cells can also express these checkpoints to evade the immune system. Immune checkpoints have become the focus of numerous therapies that seek to block the activation of inhibitory immunoreceptors and reinvigorate antitumor function of immune cells. Monoclonal antibodies targeting immune checkpoints such as CTLA-4, PD-(L)1, and LAG-3 can restore antitumor immunity, thus reversing immune evasion and promoting tumor cell death. These therapies have found robust commercial success, with approximately $40.0 billion in worldwide sales in 2022. However, they have only incrementally improved broader patient outcomes, with less than 15% of all cancer patients responding to ICI therapy. The effectiveness of ICIs is heavily dependent on the presence of tumor-reactive T cells for this treatment to reinvigorate, and many patients lack enough T cells that recognize the target tumor. Furthermore, ICIs can promote systemic activation of self-reactive T cells resulting in immune-related adverse events.

Adoptive Cell Therapies

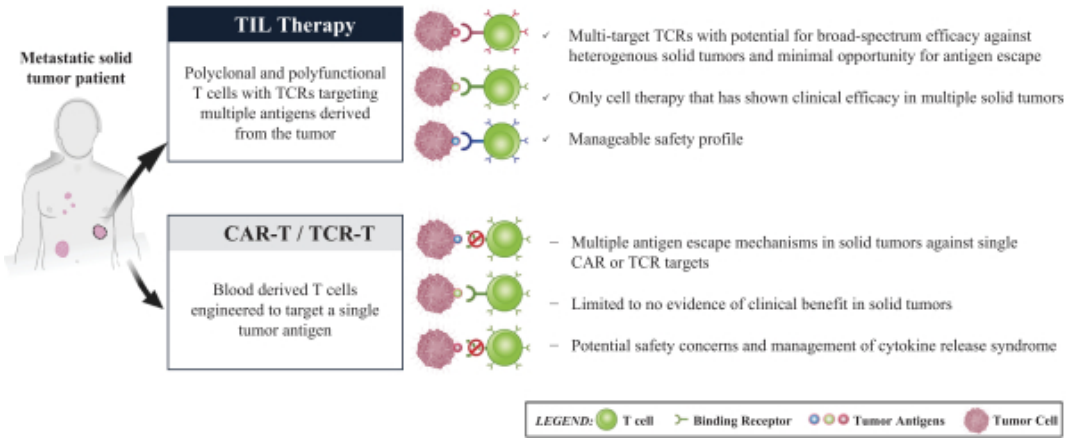
ACTs are immunotherapies that directly harness immune cells as the therapeutic modality. These immune cells, often T cells, are isolated from the patient or healthy donors, expanded, and sometimes engineered *ex vivo*, and then transferred into the patient. These processes allow for the expansion of T cells away from the immunosuppressive nature of the tumor microenvironment. While checkpoint inhibitors seek to re-activate the endogenous immune response, ACTs introduce immune cells into the body to attack target cancer cells. Most of the activity in ACTs has focused on ways to provide the requisite specificity of the T cells to cancer: identifying tumor-associated targets, evaluating their frequency on cancers versus healthy tissues, and evaluating the best ways to traffic T cells to them and attack the cancer. Three of the key ACT modalities utilizing T cells, that have been evaluated for the treatment of cancer include CAR-T, TCR-T, and TILs.

- *CAR-T*: CAR-T therapies are T cells extracted from blood that have been genetically engineered to express artificial cell surface receptors known as chimeric antigen receptors, or CARs. CARs are comprised of an extracellular binding domain specific to a surface molecule on tumor cells and an intracellular activation domain that turns the T cells "on" to kill tumor cells when the CAR binds to the tumor cell target. While patient-derived, or autologous, CAR-T therapies have been approved and have demonstrated responses in hematological cancers, they have resulted in significant off-tumor effects and limited clinical benefit in solid tumors. CAR-T therapies face a number of challenges in solid tumor settings, including lack of cell surface molecules that can be safely targeted, an inability to recognize intracellular tumor-specific proteins, and tumor antigen heterogeneity. Furthermore, the potent immune activation responsible for the success of CAR-Ts also drives the potential for life-threatening toxicity of cytokine release syndrome.
- *TCR-T*: TCR-T therapies are T cells extracted from blood that have been genetically engineered to express T cell receptors, or TCRs, that bind specific fragments of proteins presented by the human leukocyte antigen, or HLA, complexes on the surface of target cells. TCR-T therapies are engineered with a cloned TCR that directs the T cells to recognize peptides that arise from the tumor's mutated proteins or an aberrant or overexpressed self-protein. Unlike CAR-T therapies, TCR-T therapies have

the potential to target intracellular proteins preferentially expressed by cancer cells. While there has been some limited clinical success in solid tumors, the HLA-dependent mechanism of TCR-Ts requires careful tissue matching between the transgenic TCR and the patient or the expression of engineered TCRs in the patient's own cells, thus restricting the addressable patient population. In addition, the targeted antigen may not be expressed uniformly across the tumor cells, and this heterogeneity can lead to ineffective targeting of the tumor, tumor escape and treatment-resistant tumor growth.

- *TILs:* TIL therapies are a type of ACT whereby lymphocytes including T cells are extracted from the patient's tumor, expanded outside the body, and then infused back into the patient. TILs contain T cells with a diverse set of TCRs and are polyclonal, meaning they recognize multiple different antigens, and polyfunctional, meaning that they have multiple effector functions. Due to these features, TILs have the potential to penetrate tumors and recognize and kill cancer cells and offer potential as a therapeutic for the treatment of solid tumors. To date, TILs have shown clinical efficacy in multiple solid tumor types while demonstrating a consistent and manageable safety profile.

We believe that TILs have the potential to address the challenges of solid tumor recognition and heterogeneity in ways that CAR-Ts and TCR-Ts cannot, while also avoiding some of the potential safety concerns of CAR-T and TCR-T therapies, as illustrated in the figure below.



Clinical Validation of Bulk TILs

Patient-specific TIL-based investigational therapies have been studied and developed for the treatment of solid tumors for over three decades. Pioneering work led by Dr. Steven A. Rosenberg, M.D., Ph.D., at NCI, first demonstrated the therapeutic benefit of TILs in the treatment of melanoma. Most of the early work in TILs was focused on the development of an ACT using "bulk TILs," whereby all TILs extracted from a patient's tumor are isolated, expanded *ex vivo* and then reinfused into the patient.

Over the years, several hundred patients in the United States have received bulk TIL therapies across academia and industry-sponsored clinical studies. In metastatic melanoma patients refractory to PD-(L)1 treatments, bulk TIL monotherapy has yielded objective response rates, or ORR, of approximately 30% to 50%, with complete response rates, or CRs, ranging from approximately 5% up to 20%. Beyond metastatic melanoma, bulk TIL therapy has demonstrated early therapeutic potential in a limited number of solid tumors including squamous cell carcinoma of the head and neck, cervical cancer, and non-small cell lung cancer. To date, clinical trials of bulk TIL products have trended toward achieving their greatest success in cancers with a high number of mutations, also typically referred to as high tumor mutational burden, or TMB.

Limitations of Bulk TILs

The body of data spanning decades of research and clinical development in TILs has shed light on what we believe is the key feature that has made TILs successful to date, and also what has limited the success of bulk TILs to a subset of high TMB solid tumor indications. The therapeutic potential in any TIL product is driven by the "tumor-reactive T cells" that are characterized by recognition of tumor-specific antigens. Tumor-reactive T cells are polyclonal and polyfunctional populations of cells that can comprehensively recognize and kill a diverse population of heterogenous tumor cells unique to each patient.

We believe the key limitation of bulk TILs is the small subset of tumor-reactive T cells that exist in most bulk TIL products. Bulk TILs are routinely dosed at 10^9 cells or more, with tumor-reactive T cells representing reported median values of less than 3% of the total number of cells infused back into the patient. The tumor-reactive T cells included in bulk TIL products may be sufficient to drive therapeutic benefit in some patients with high TMB tumors. However, the fewer the number of mutations in the initial tumor material used to generate the bulk TIL product, the lower the number and proportion of tumor-reactive T cells included in a bulk TIL product, and consequently the lower the therapeutic benefit observed. In fact, across more than 50 patients with epithelial malignancies and low TMB tumors studied at the NCI, bulk TILs have demonstrated limited to no therapeutic benefit for patients.

We believe the limitations described above highlight the need for the next generation of TIL therapy to selectively expand the necessary population of tumor-reactive T cells to maximize the benefit of TILs across a greater breadth of solid tumors. It is our belief that the greater the population of tumor-reactive T cells delivered to a patient in a TIL product, the higher the tumor killing and resulting therapeutic benefit to the patient.

Our Solution: Selected TILs

We are developing next generation TIL therapies designed to drive therapeutic benefit and curative outcomes across multiple solid tumors. Our innovative Selected TIL approach focuses on selecting and expanding the most potent tumor-reactive T cells to overcome the limitations of bulk TILs. This approach is grounded in work conducted in academia that has demonstrated improved clinical responses for selected TILs in solid tumor types where bulk TILs have not shown benefit. We are leveraging this work to establish a standardized manufacturing process for large scale production of our Selected TILs.

We are developing Selected TILs based on foundational principles that are designed to yield the greatest number and proportion of tumor-reactive T cells in our TIL product candidates. Our goal is to develop TIL therapies that will provide greater efficacy in a broad range of solid tumor types by employing the following principles:

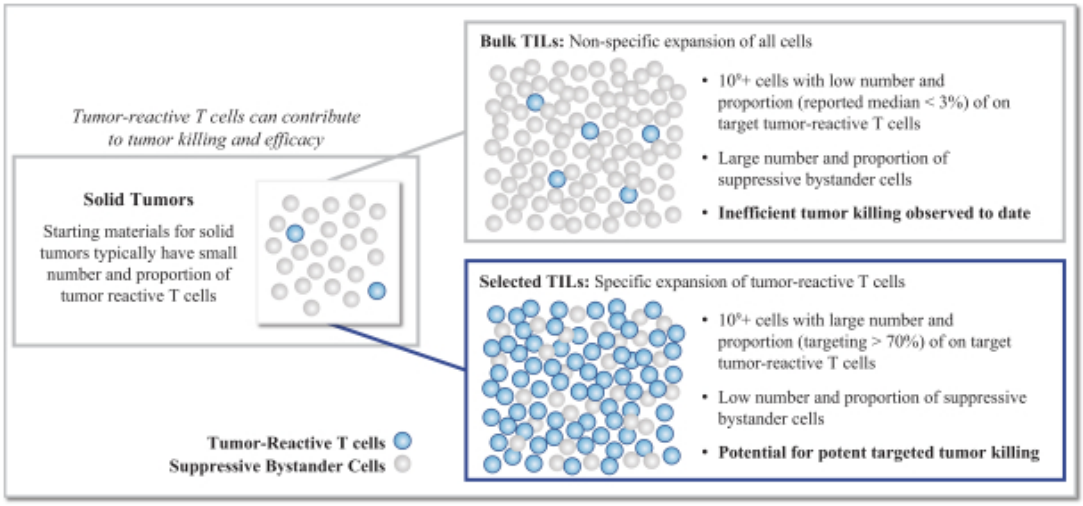
(1) ***Unbiased identification of patient-specific tumor antigens****:* We seek to identify the most comprehensive set of patient-specific tumor antigens. We use an unbiased identification process that aims to find and capture the greatest diversity of antigens with the potential to drive the most robust T cell response, unlike other TIL products that are biased toward a specific subset or class of antigen(s), which may miss relevant tumor antigens or focus on the wrong targets.

(2) ***Selection of greatest breadth of tumor-reactive T cells from patient extracted TILs****:* Our goal is to capture and isolate the greatest number and proportion of a patient's tumor-reactive T cells that have the potential to attack and destroy heterogeneous solid tumors. We aim to select the greatest diversity of T cells, by using a functional-based screening process that confirms reactivity to the identified patient-specific tumor antigens rather than relying on a bioinformatics-based prediction algorithm that may not be truly predictive. Importantly, we seek to select for both CD8+ T cells, which can directly kill tumor cells, and CD4+ T cells, which stimulate and recruit other immune cells to tumor sites; studies have shown that the presence of both types of T cells is important for effective tumor control.

(3) ***Expansion of all tumor-reactive T cells and removal of all non-tumor-reactive bystander cells****:* We expand our selected tumor-reactive TIL population to magnitudes consistent with bulk TIL products

and actively remove unnecessary bystander cells. This selective expansion has results in a substantialy higher absolute number and proportion of tumor-reactive T cells in the final product in comparison to the relatively infrequent tumor-reactive T cells that are routinely found in bulk TIL, which we believe will result in more potent tumor killing.

The potential advantages of Selected TILs over bulk TILs are depicted in the figure below.



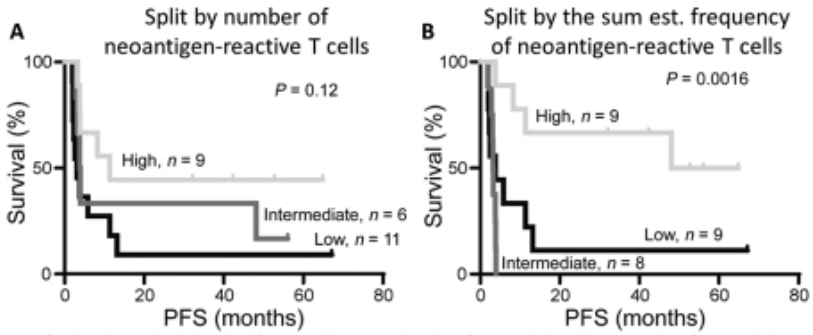
The approach described above is inherently designed to select for and characterize the active TIL product, *i.e.*, the tumor-reactive T cells. Bulk TIL approaches do not select for the active TIL product and have consequently faced challenges in product characterization and potency assay development. We believe that our Selected TIL approach will facilitate the development of potency release assays to support registrational requirements and avoid the characterization challenges of bulk TILs.

Supporting Clinical Evidence

We believe the growing body of prospective and translational clinical data in the TIL field supports the potential superiority of our Selected TIL approach compared to bulk TILs. In clinical trials conducted by others, the benefits observed with bulk TILs were driven by a small subset of tumor-reactive T cells in the bulk TIL product. Furthermore, clinical trials in academic medical centers utilizing rudimentary strategies to select for these tumor-reactive T cells have demonstrated positive outcomes in challenging solid tumors, where bulk TILs have had limited to no success.

A study by Kristensen *et al.* in 2021 reviewed data from 26 metastatic melanoma patients who were treated with TILs and evaluated the correlation between the number and frequency of tumor-reactive T cells in the TIL product and the level of clinical benefit observed. As demonstrated in the figure below, patients that received TIL products with a high frequency of tumor-reactive T cells, more specifically referenced as neoantigen-reactive

T cells in this study, experienced longer periods of progression-free survival, whereas those receiving TIL products virtually devoid of tumor-reactive antigen recognition experienced rapid disease progression following TIL treatment.



PFS for the cohort splits by high (>66th percentile), intermediate (> 33rd percentile), and low groups (≤33rd percentile). Neoantigen-reactive T cell (NARTs). (**A**) NART number 66th percentile = 5.65 NARTs. 33rd percentile = 0.88 (**B**) NART frequency. 66th percentile = 3.26%. 33rd percentile = 0.03%.

The key challenge for bulk TILs is that there is a limited number and breadth of these tumor-reactive T cells, which constrains the potential for bulk TILs to drive clinical benefit to patients. As a result, academic researchers have explored the potential of selecting or enriching for tumor-reactive T cells within the bulk TILs as a potential therapy for cancers where bulk TILs have not shown clinical benefit, including lung, breast, colorectal, and bile duct cancers.

Early academic selection and enrichment strategies typically utilized fragment-based selection and expansion approaches. Following harvest and dissection of the tumor, small numbers of tumor fragments were placed into separate multi-well tissue culture dishes and cultured with the tumor or manufactured antigens. TIL populations that were activated by exposure to tumor antigens in culture would then be identified based on cytokine expression and/or T cell activation marker expression, and only those activated TIL populations would be expanded for use in the final product.

A variation of this TIL selection approach demonstrated promising outcomes in non-small cell lung cancer in a study reported by Creelan *et al.* in 2021. Approximately 54% of the patients evaluable for clinical response in this study received TILs with confirmed tumor-reactivity, whereas the remainder received TIL products with no confirmed tumor-reactive T cells, demonstrating the crude and inconsistent nature of the academic manufacturing process. However, of the patients that received a TIL product with tumor-reactive T cells, 43% experienced a partial response, or PR, or CR, whereas all of the patients that received TILs without confirmed tumor-reactive T cells experienced disease progression, as shown in the table below. This study highlights the potential of selected TILs to generate positive outcomes in a challenging tumor indication, even with a rudimentary selection process.

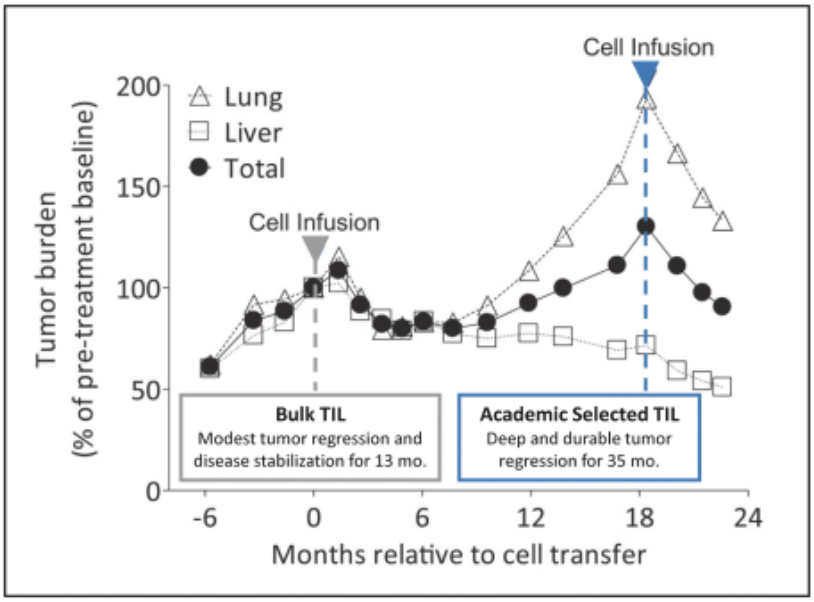
	Patients that received a TIL product ***with confirmed*** tumor-specific reactivity	Patients that received a TIL product ***with no confirmed*** tumor-specific reactivity
N*	7 (54%)	6 (46%)
N with confirmed ORR (%)	3 of 7 (43%)	0 of 6 (0%)
N with confirmed CR (%)	2 of 7 (29%)	0 of 6 (0%)

**only includes patients evaluable for clinical response (N=13)*

In clinical trials, TIL products enriched for tumor-reactive T cells using early selection strategies have also led to durable cancer regressions in difficult to treat epithelial malignancies including metastatic breast cancer, or mBrCa. Zacharakis *et al.*, in 2022 demonstrated that these TILs mediate regression in patients with breast cancer refractory to standard treatments. Three of six patients with mBrCa treated with infusion of tumor-reactive TILs developed objective cancer regression, and one CR was observed to be durable for more than 5.5 years.

This trial also highlighted the importance of different T cell populations in the TIL product. CD4+ T cells appeared to be the predominant population in the mBrCa TILs that demonstrated tumor reactivity, and this may have helped circumvent certain immune escape mechanisms by tumors. We believe this result suggests that successful selection strategies should include both CD8+ and CD4+ cells in the final TIL product.

Additional single patient academic studies in colorectal cancer in 2016 and bile duct cancer in 2014 conducted by Tran *et al.* utilizing early TIL selection strategies also have yielded promising responses. Notably, the bile duct patient was originally treated with bulk TILs that initially resulted in some tumor reduction, although the patient subsequently progressed. This patient was further treated with selected TILs at a point when the patient had higher disease burden and demonstrated deep and more durable tumor regression as shown in the graphic below.



The selection processes of the studies above differ from our Selected TIL approach due to a crude enrichment of tumor-reactive T cells through small pools of tumor fragments. These processes only partially enriched the drug products for tumor-reactive T cells and allowed carry over of bystander cells into the drug products. In contrast, our method of physical single cell sorting is designed to ensure selection of all tumor-specific antigen-reactive T cells and also facilitates efficient removal of bystander cells.

Building a Product Pipeline to Further Enhance the Quality and Function of Selected TILs

We believe our Selected TIL approach sets us apart from others in the industry that are utilizing bulk TILs, including newer bulk TIL approaches that introduce gene edits and culture media additives to enhance TIL quality and function. We believe that without the optimal starting population of tumor-reactive T cells, further enhancements or modifications to bulk TILs are unlikely to succeed in extending therapeutic benefit beyond the limited tumor types where bulk TILs have already shown clinical efficacy. We are also extending our product

pipeline by making additional modifications to our proprietary Selected TILs and deploying them in differentiated combination strategies to further enhance TIL quality and function.

Modifications to Enhance TIL Quality

We are developing pipeline programs where we are evaluating enhanced culture conditions during the TIL production process to maintain and further improve TIL quality *ex vivo*. These enhanced culture conditions are designed to incorporate a mix of cytokines with the potential to rejuvenate dysfunctional and/or exhausted T cells.

Additionally, we plan to introduce functional genetic modifications into our pipeline programs that may drive potential for more sustained TIL quality and persistence *in vivo*. These gene edits will be designed to modify the tumor-reactive T cells to proliferate while resisting exhaustion post infusion, minimize their dependance on exogenous IL-2 for *in vivo* proliferation, and maintain their potential to kill tumors in suppressive tumor microenvironments. We are currently evaluating and prioritizing clinically informed targets for these genetic modifications.

Virus Combinations

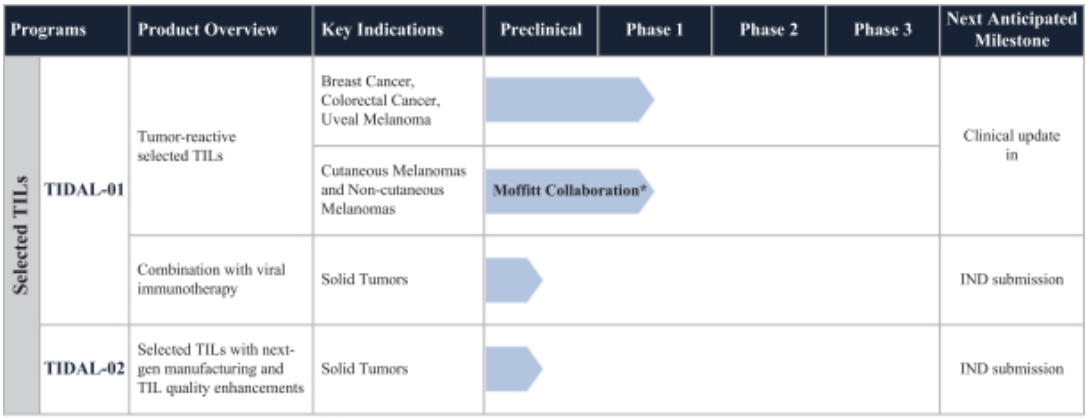
Viral immunotherapy is a therapeutic modality with widespread potential to drive and modulate immune responses to tumors. The potential of viral immunotherapy has been validated by the FDA-approval of Talimogene laherparepvec for the treatment of metastatic melanoma and demonstrated through subsequent clinical data achieved by the next generation of viral immunotherapies in development. Many viruses have inherent oncolytic activity that can be modulated through genetic engineering to enhance potency and safety. These viruses are characterized by the unique features of preferentially infecting, replicating within, and killing malignant tumor cells, as well as activating the immune response. Viral immunotherapies are designed to convert immunologically unresponsive “cold” tumor microenvironments to more reactive “hot” tumor microenvironments and thereby enhance the activity of immunotherapies including ICIs and ACTs, such as TIL therapies.

We believe we are strongly positioned to combine our Selected TIL product candidates with our proprietary viral immunotherapies utilizing two distinct approaches:

- *Viral immunotherapy pre-treatment (prior to TIL extraction) to optimize TIL harvest and broaden access to indications less amenable to TIL therapy*: Pre-treating the patient with a viral immunotherapy has the potential to disrupt the tumor and expose new antigens to the immune system thus driving a larger and more diverse population of tumor-reactive T cells. In addition, viruses elicit systemic cytokine production that can traffic T cells to the site of the tumor. We believe treatment with our viral immunotherapies could enable a superior TIL harvest, in quality, quantity and breadth of TILs. We plan to target this approach specifically to patients and indications for which the TIL yield is typically low, often leading to failure in generating sufficient TIL therapy for the patient.
- *Viral immunotherapy post-treatment (following delivery of the TIL product) to optimize TIL trafficking and function to further deepen the response and durability of our TIL therapies*: Viral immunotherapy utilizes multi-mechanistic approaches to reprogram the immunosuppressive tumor microenvironment (*i.e.*, turn a ‘cold’ tumor ‘hot’) that can potentiate TIL infiltration, function, and proliferation within the tumor. In addition, virus at the tumor site is designed to serve as a beacon to call TILs to the site of the tumor. We believe treating the patient with viral immunotherapy following TIL infusion into the patient has the potential to produce a deep and durable response across several challenging solid tumors.

Our Pipeline

We believe that our Selected TIL approach has the ability to drive therapeutic benefit in a wide range of solid tumors. We are developing a broad pipeline aimed at improving outcomes for patients with cancers with high unmet medical need, as illustrated in the chart below.



* Investigator sponsored trial at Moffitt Cancer Center

- ***TIDAL-01****:* Our lead Selected TIL product candidate utilizes an unbiased identification and functional screening process to isolate and selectively expand the greatest breadth of tumor-reactive T cells extracted from the patient's tumor. We have initiated two Phase 1 clinical trials for TIDAL-01, including a multi-site trial for the treatment of breast cancer, colorectal cancer, and uveal melanoma, and investigator sponsored trial with Moffitt, in both cutaneous and non-cutaneous melanomas. We intend to provide an initial clinical update across these two trials in .
- ***TIDAL-02****:* Our next generation Selected TIL program encompasses a streamlined manufacturing process designed for selecting tumor-reactive T cells, with additional modifications to enhance TIL quality and function. TIDAL-02 is currently in preclinical development.
- ***Selected TIL and viral immunotherapy****:* Our combination strategies are designed to improve TIL harvest and overcome the immunosuppressive tumor microenvironment for better trafficking and expansion of TILs *in vivo.* We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

TIDAL-01

Overview

TIDAL-01 is our lead Selected TIL product candidate that we are advancing in multiple solid tumor indications. TIDAL-01 utilizes an unbiased identification and functional screening process to isolate and selectively expand the most comprehensive set of tumor-reactive TILs from the patient's tumor. Our TIDAL-01 production process is designed to deliver at least 10^9 cells and targets greater than 70% functional and potent tumor-reactive T cells.

We have initiated a multi-site Phase 1b clinical trial for TIDAL-01 in patients with solid tumors such as breast cancer, colorectal cancer, and uveal melanoma, which are indications with high unmet medical need where bulk TILs have not historically shown clinical efficacy. Additionally, we have also initiated a Phase 1 clinical trial in collaboration with Moffitt that will evaluate TIDAL-01 in multiple types of melanoma including cutaneous melanomas, an indication where bulk TILs have been clinically validated. We believe that positive results from one or both of these trials could support advancement of TIDAL-01 into potential registrational trials across multiple solid tumor types. We plan to provide an initial clinical update on the TIDAL-01 program in .

Background on Breast Cancer, Colorectal Cancer, Uveal Melanoma, and Cutaneous Melanoma

Breast cancer: Breast cancer makes up approximately 15% and 13.3% of all new cancer cases in the United States and Europe, respectively. About one in eight U.S. women and one in 11 European women will develop invasive breast cancer over the course of her lifetime. In 2020, the United States and European Union saw an estimated 279,000 and 350,000 new cases as well as over 42,000 and 90,000 deaths, respectively. Nearly 30% of women diagnosed with early-stage breast cancer will eventually develop metastatic disease. Breast cancer is the second leading cause of cancer death in women in the United States, only trailing lung cancer. In recent years, improvements in early diagnosis and treatment have improved survival rates by approximately 1% per year, but the five-year survival rate for women with metastatic breast cancer is 30%. Treatment options and recommendations depend on several factors, including the tumor's subtype, stage, genomic markers, the patient's age, and presence of known mutations in inherited breast cancer genes, but may include surgery, radiation therapy, chemotherapy, hormonal therapy, targeted therapy, and immunotherapy.

Colorectal cancer, or CRC: CRC is the fourth most commonly diagnosed cancer and ranks second in terms of mortality in the United States. In 2020 in the United States and Europe, there were estimated to be more than 145,000 and 341,000 cases as well as over 50,000 and 150,000 deaths from CRC, respectively. Of these cases, approximately 80% of patients are characterized as microsatellite stable, or MSS as opposed to the approximately 15% which are microsatellite instable, or MSI. Whereas the microsatellite instability-high, or MSI-H, phenotype confers good prognosis and greater response to immunotherapy in CRC, MSS tumors are generally considered 'cold' tumors and are less responsive to immunotherapies, with anti-PD-(L)1 therapy demonstrating nearly no effect. The five-year survival rate for all colorectal cancer is approximately 65% and drops below 20% if the cancer has metastasized. Treatment options for CRC include surgery, radiation therapy, chemotherapy, targeted therapy, and immunotherapy.

Uveal melanoma: Uveal melanoma is a rare and aggressive form of melanoma that affects the eye. It is the most common primary intraocular malignancy in adults, and up to 50% of people with uveal melanoma will eventually develop metastatic disease, usually involving the liver and less frequently lung, bone, and other organs. Epidemiology of uveal melanoma varies by region and ethnicity. In the United States and Europe, it is estimated that there are approximately 4,000 to 5,000 new cases of primary uveal melanoma per annum. About 5% of patients present with metastatic disease, and up to 50% will eventually develop metastatic disease. Treatment generally involves surgery if metastases are not present and radiation therapy. In cases where uveal melanoma is constrained to the eye, five-year survival rates are about 85%, but if the disease spreads to other organs, the five-year survival rate is 15%. While there is one FDA-approved drug for the treatment of unresectable or metastatic uveal melanoma, there remains a significant unmet medical need due to a number of factors including only a subset of patients being eligible for treatment by the approved product. Other potential treatment options include anti-PD-(L)1 or anti-CTLA-4 checkpoint inhibitors, chemotherapy, and kinase inhibitors.

Cutaneous melanoma: Cutaneous melanoma, or melanoma of the skin, is the most common form of melanoma. In the United States and Europe, there are approximately 97,000 and 106,000 new cases of cutaneous melanoma and approximately 8,000 and 16,000 deaths, respectively, per year. Melanoma is unique compared to non-melanoma skin cancers in that it tends to spread locally, regionally, and distantly. Metastatic spread risk is high in melanoma patients, with approximately 5% of melanoma cases being metastatic at diagnosis, and most often involves skin and subcutaneous tissues, lungs, liver, bones and brain. Surgery is the main treatment option for most melanomas and usually cures localized invasive melanoma. For melanomas that have metastasized to other areas of the body or organs that cannot be surgically removed, radiation, checkpoint inhibitor therapy (anti-PD-(L)1 with or without anti-CTLA-4), targeted therapy or chemotherapy are the most common treatment options, with a five-year survival rate of 15% to 20%.

Our Solution: TIDAL-01

TIDAL-01 is a Selected TIL product candidate that utilizes an unbiased identification and functional screening process designed to isolate and selectively expand the greatest breadth of tumor-reactive TILs from the patient's tumor. We believe that TIDAL-01 has the potential to offer therapeutic benefit in a broad range of solid tumor types with high unmet medical needs.

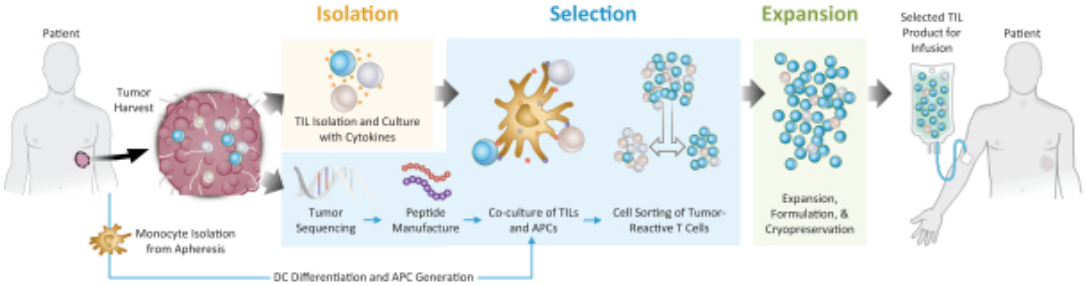
We have developed consistent and scalable current good manufacturing practice, or cGMP manufacturing for TIDAL-01 designed to deliver a potent tumor-reactive T cell product. The manufacture of each TIDAL-01 product is initiated by harvesting the patient's tumor samples through surgical resection and collecting monocytes from the blood through apheresis. The three key processes steps to manufacture TIDAL-01 are isolation, selection, and expansion:

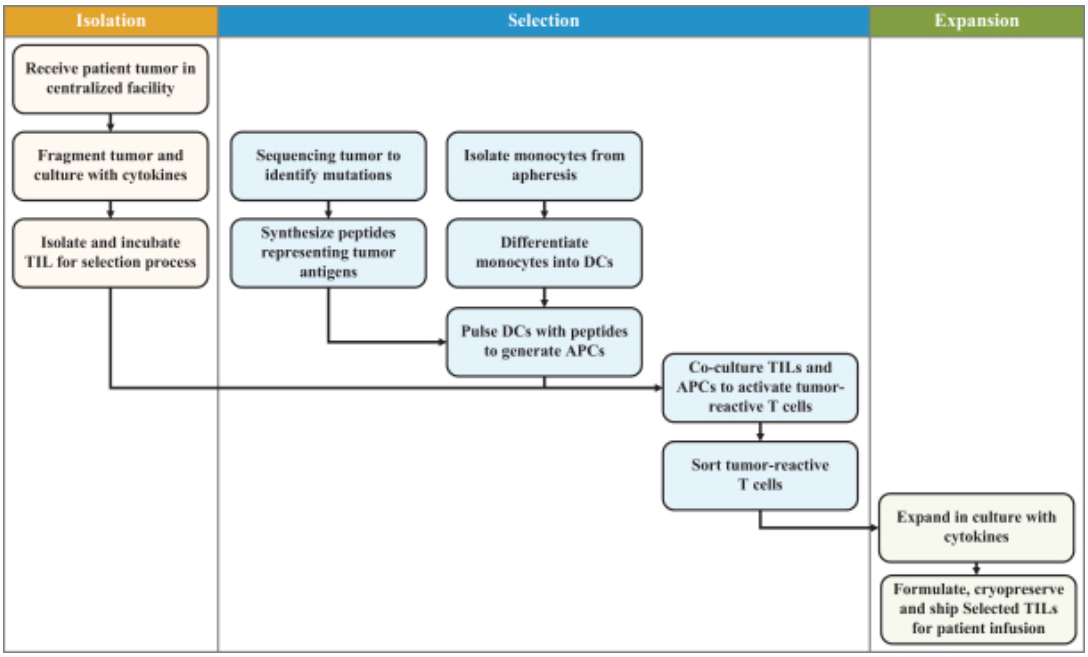
- *Isolation:* Tumor samples are shipped to a centralized manufacturing facility where the tumor is dissected into small fragments and cultured with cytokines. TILs are then isolated from the tumor fragments and incubated to generate a sufficient population of cells to perform the selection process.
- *Selection:* The patient's tumor sample is sequenced and mutations that are specific to the tumor are identified based on comparisons to the patient's healthy tissue. These mutant sequences are used to generate more than 190 unique peptides that represent potential tumor antigens. We believe that this number of peptides can cover the full set of tumor antigens found in low TMB tumors. In the case of high TMB tumors where more than 200 antigens have been identified, we use our in-house bioinformatics capabilities to prioritize the most immunogenic antigens for peptide generation.

  In parallel, monocytes from the apheresis product are differentiated into dendritic cells, or DCs. The synthesized peptides are incubated with the DCs, which process and present the antigens to become antigen-presenting cells, or APCs.

  In order to identify tumor-reactive T cells within the isolated TILs, we utilize a functional screening process leveraging these APCs. The isolated TILs are co-cultured with APCs and only the tumor-reactive T cells that recognize the antigens on the APCs become activated. These activated tumor-reactive T cells are then physically sorted from the cells that are not tumor-reactive on the basis of well-established activation markers. This process is designed to generate Selected TILs that capture the greatest breadth of tumor-reactive T cells and remove potentially detrimental bystander cells.
- *Expansion:* These Selected TILs are expanded in culture with cytokines to a target of 10^9 or more cells, which we believe represent a therapeutically relevant dose. The cells are then formulated, cryopreserved, and shipped to the clinical site for patient administration.

These three processes steps are depicted in the schematic and associated process flow chart below:





Our process is designed to result in a Selected TIL therapy targeting at least 10^9 cells with the following product attributes:

- Targets greater than 70% tumor-reactive T cells
- Polyclonal and polyfunctional mix of CD4+ and CD8+ cells
- Potential to target a large breadth of antigens specific to each individual patient
- Potent anti-tumor activity, as observed in preclinical studies
- Potential to stimulate broad immunological responses
- Clearly defined potency parameters

Manufacturing, Process Development, and Analytical Characterization

To date, we have completed multiple manufacturing runs that meet clinical specifications to establish readiness for clinical manufacturing. All completed runs successfully demonstrated consistency and reproducibility of desired yield, distribution of CD8+ and CD4+ T cells, and anticipated preliminary potency parameters of the TIDAL-01 product at good current manufacturing practice, or cGMP scale.

Manufacturing of TIDAL-01, from the collection of patient samples to the infusion of the drug product into the patient, currently takes around eight weeks. We have ongoing in-house process development efforts focused on reducing manufacturing time to approximately four weeks by optimizing critical steps in manufacturing, supply chain and logistics. Some improvements include establishing in-house tumor sequencing capabilities, expediting synthesis and shipping of peptides and reducing the duration of the expansion process. Most of our efforts to reduce manufacturing time are well underway and we expect to have the key improvements fully implemented prior to the initiation of any registrational trials.

Our TIDAL-01 process is inherently designed to select for and characterize the tumor-reactive T cells that provides the tools to measure tumor specific potency and facilitate the development of potency release assays to

support registrational requirements and avoid the characterization challenges of bulk TILs. We have implemented a comprehensive sample retention strategy for the final TIL product manufactured per patient as well as critical raw materials and process intermediates to facilitate a robust analytical characterization program, with a variety of functional and phenotypic assays deployed for potency assessment.

TIDAL-01 is currently deployed at two primary manufacturers for the isolation, selection, and expansion steps: the Moffitt Cancer Center Cell Therapy Facility and an industrial contract development and manufacturing organization, or CDMO. We believe that continuing to maintain full control of our manufacturing network and supply chain, across our overall pipeline, is central to our success and a core component of our strategy. As TIDAL-01 progresses in clinical development, we expect to continue to form and expand strategic external partnerships across all facets of our manufacturing and supply chain. If we demonstrate clinical success of TIDAL-01, we intend to explore both the design, engineering, construction, commissioning, and operation of a fully integrated commercial manufacturing supply chain, as well as external strategic partnerships that are favorable to us and satisfy anticipated manufacturing demand.

Strategic Alliance and Collaboration with Moffitt Cancer Center

We have entered into a first of its kind strategic alliance with Moffitt, an academic leader in the TIL field to leverage their expertise for rapid advancement of TIDAL-01 into the clinic. Moffitt has a strong track record of conducting cell therapy clinical trials, and specialized expertise in treating patients with TIL therapies. Moffitt's capabilities are further strengthened by their on-site cGMP facility for clinical manufacturing of TIL products and laboratories providing extensive research and translational support. We have partnered with Moffitt to open the first TIDAL-01 IND for an investigator-sponsored trial for the treatment of cutaneous and non-cutaneous melanomas. Under the strategic alliance, Moffitt will provide us access to accelerated clinical site activation and patient recruitment. Additionally, Moffitt will support the ongoing trial with dedicated cleanroom capacity and manufacturing priority at their on-site cGMP facility for TIDAL-01 production. In parallel, we are also working with Moffitt on our dedicated pre-clinical research studies supporting the use of our Selected TILs in solid tumor types, including breast and gastrointestinal cancers.

Nonclinical Studies

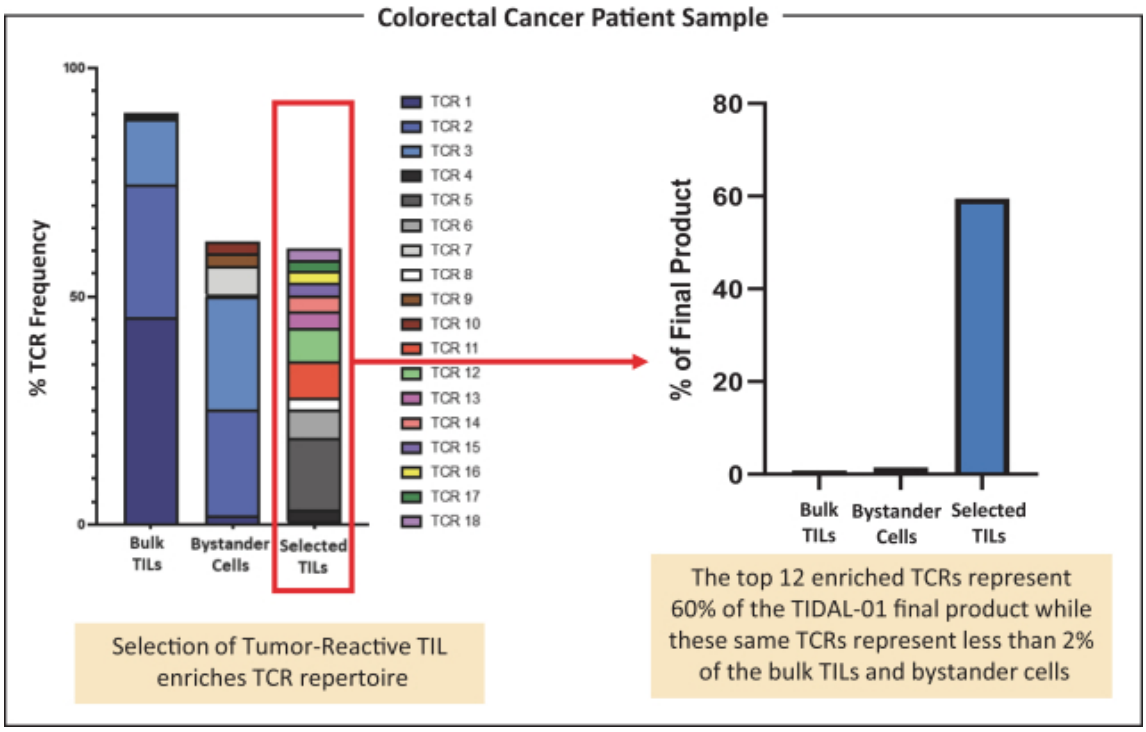
In order to evaluate the therapeutic potential of TIDAL-01, we conducted a series of nonclinical studies using Selected TILs generated with our TIDAL-01 process from patients with various solid tumor types. These studies demonstrated that our TIDAL-01 process resulted in:

1. Consistent enrichment of tumor-reactive T cells targeting multiple relevant patient-specific tumor antigens
2. Selection and enrichment of therapeutically relevant quantities of both CD4+ and CD8+ tumor-reactive T cells
3. Selected TIL products displaying polyfunctional anti-tumor activity
4. Selected TIL products with potent tumor-killing activity
5. Functionally competent T cells in the final product

1. Consistent enrichment of tumor-reactive T cells targeting multiple relevant patient-specific tumor antigens

TIDAL-01 is designed to select for T cells that are specifically reactive to the patient's tumors. Using TILs generated from patients with multiple solid tumor types employing the TIDAL-01 process, we evaluated the T cell receptor, or TCR, repertoire of the TILs using next-generation sequencing before and after the selection step of our process. We then evaluated the frequency of T cells in the samples that recognized patient-specific tumor antigens. We consistently observed that Selected TILs displayed an enriched TCR repertoire and increased T-cell reactivity toward patient-specific tumor antigens relative to the bulk TIL comparator.

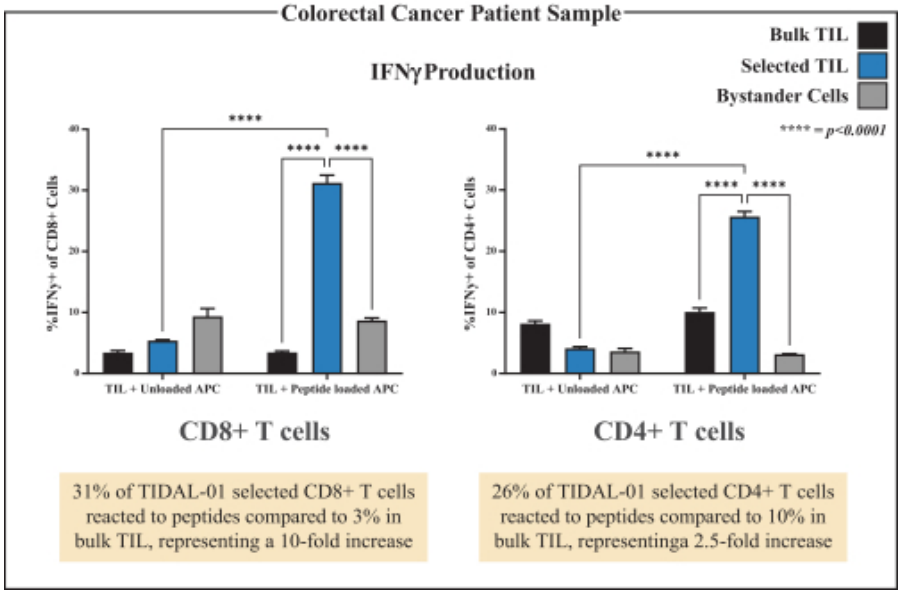
To further evaluate enrichment of tumor-reactive T cells, we compared the frequencies of TCRs in TIDAL-01 versus bulk TILs generated from a colorectal cancer patient. The left side of the figure below shows the frequency of the top approximately 16 most abundant TCRs in the bulk TIL sample, the TIDAL-01 Selected TIL sample, and the non-tumor-reactive bystander cells removed during the TIDAL-01 Selection process. This study demonstrated that relatively few TCRs predominated in bulk TIL products, and that those abundant TCRs were non- tumor-reactive, as evidenced by overlap of the predominant TCRs in the bulk TIL with the bystander cell TCRs. Conversely, our Selected TILs displayed a more diverse and less biased TCR repertoire, which we anticipate will enable the Selected TILs to target a large breadth of patient-specific tumor antigens. The TIDAL-01 selection process enriched tumor-reactive T cells by approximately 30-fold in comparison to frequencies present in bulk TIL.



2. Selection and enrichment of therapeutically relevant quantities of both CD4+ and CD8+ tumor-reactive T cells

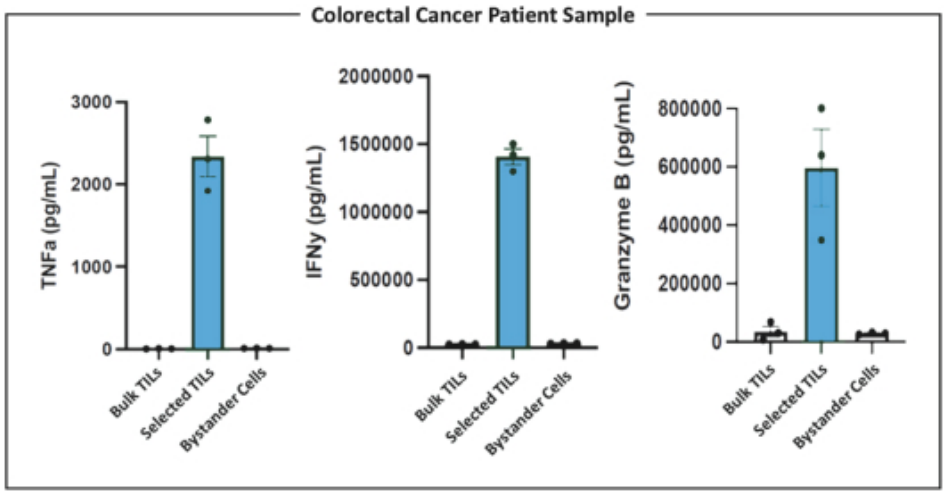
In order to further evaluate the tumor-reactive T cell population in TIDAL-01, we conducted flow cytometry studies using Selected TILs and bulk TILs from the same colorectal cancer patient. The purpose of this study was to compare the percentage of tumor-reactive CD4+ and CD8+ T cells resulting from these processes.

Representative cytokine staining data is depicted in the figure below. The frequency of tumor-reactive T cells in each sample is depicted by the percentage of cells that express interferon gamma, or IFNg, in response to tumor antigens presented by “peptide loaded APC”. For the Selected TILs, bulk TILs, and bystander cells, we measured tumor-reactive CD4+ and CD8+ T cells after incubating the TIL samples with APCs displaying patient-specific tumor antigens and with APCs without patient-specific tumor antigens. As shown below, Selected TILs generated by TIDAL-01 contained far higher frequencies of tumor-reactive CD4+ and CD8+ T cells relative to bulk TILs.



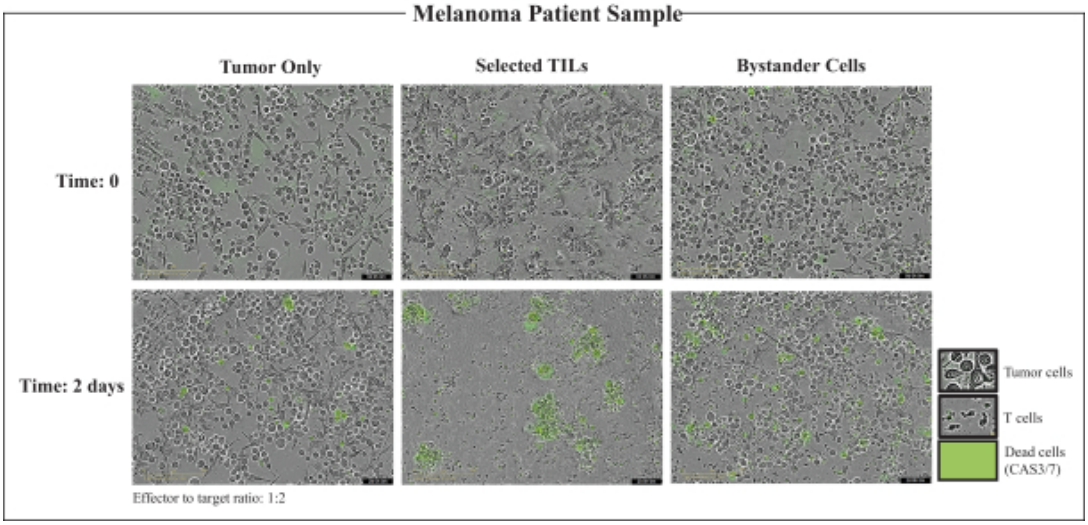
3. Selected TIL products displaying polyfunctional anti-tumor activity

We compared the potency of Selected TILs and bulk TILs from the same patients across multiple solid tumors by measuring the expression of key indicators following exposure to patient-specific tumor antigens. The expression of IFNg and tumor necrosis factor α, or TNFα, in response to patient-specific tumor antigens indicates the potential of TILs to orchestrate broad anti-tumor immunological responses, and the expression of granzyme B indicates the potential of TILs to kill nearby tumor cells. The figure below depicts representative results from a colorectal cancer patient comparing the expression of these potency indicators as measured by enzyme-linked immunosorbent assay for the bulk TILs, the TIDAL-01 Selected TILs, and the non-tumor-reactive bystander cells removed during the TIDAL-01 Selection process. The columns highlighted in blue indicate that our Selected TILs displayed several orders of magnitude higher levels of potency indicators when compared to bulk TILs or bystander cells for a colorectal cancer patient sample. Additionally, the responses of bulk TIL resembled those of bystander cells, suggesting the predominance of bystander cells in the bulk TIL population.



4. Selected TIL products with potent tumor-killing activity

In order to evaluate the antitumor activity of TIDAL-01, we compared the impact of Selected TILs and bystander cells from the same patient on tumor cells derived from that patient. Selected TILs and bystander cells were mixed with patient-derived tumor cells for 48 hours. The cell populations were analyzed by video microscopy, and image analysis algorithms were used to assess the number of dead and alive tumor cells at regular intervals. Selected TILs displayed a higher capacity to kill tumor cells relative to bystander cells as depicted in the figure below for a melanoma patient sample.



5. Functionally competent T cells in the final product

To ensure that TIDAL-01 is comprised of functionally competent T cells, we conducted an immunophenotypic analysis of Selected TILs following the TIDAL-01 Expansion process. Multiparameter flow cytometry was used to quantify the expression of key indicators of functionality, including markers for T cell exhaustion (PD-1, TIM-3 and LAG-3) and T stem central memory, or Tscm (CD45RA+, CCR7+ and CD27+).

TIDAL-01 showed low and non-overlapping expression of PD-1, TIM-3 and LAG-3, indicating a lack of functional exhaustion in the final drug product. TIDAL-01 also demonstrated a relatively high frequency of cells co-expressing CD45RA+, CCR7+, and CD27+, indicating the presence of a Tscm subset. The frequency of long-lived T cells displaying markers associated with Tscm populations has been associated with enhanced outcomes in response to T cell immunotherapy (Ren, Cao & Wang 2021), and there is clinical evidence of a highly significant association between the likelihood of having a complete response and the infusion of TIL containing CD8+ CD27+ cells (Rosenberg et al., 2011).

Clinical Development Strategy

Our clinical strategy is designed to evaluate the therapeutic benefit of TIDAL-01 in multiple solid tumor indications to support an efficient path to registration. We seek to: (i) generate clinical data through a multi-site trial in indications with high unmet medical need where clinical benefit of bulk TILs has not been demonstrated and (ii) determine the clinical activity of TIDAL-01 in indications where bulk TILs have previously been successful, through an investigator-initiated trial.

Multisite solid tumor clinical trial: We have initiated a multicenter Phase 1 trial evaluating TIDAL-01 for the treatment of patients with breast cancer, colorectal cancer and uveal melanoma. These tumor types are

generally characterized by a low TMB, have high unmet medical needs, and have not historically benefitted from bulk TIL therapy. Given the limited treatment options in these indications, the historically low response rates, and our belief in the therapeutic potential of Selected TILs in challenging solid tumors, we believe that TIDAL-01 has the potential to demonstrate meaningful clinical benefit in these indications. We are initially targeting enrollment of 40 to 60 patients across the three indications with the following criteria:

- Patients with unresectable or metastatic breast cancer who have relapsed on at least one prior treatment for metastatic disease including guideline directed targeted therapy for eligible subtypes.
- Patients with unresectable or metastatic colorectal cancer including both MSS and MSI subtypes. MSS-colorectal cancer patients must have received a prior regimen containing at least oxaliplatin or irinotecan. MSI-colorectal cancer patients must have failed or progressed on a prior regimen with anti-PD-(L)1 therapy.
- Patients with uveal melanoma that have only received local-regional or adjuvant therapy if systemic treatments are contra-indicated or unavailable.

Melanoma-focused clinical trial at Moffitt Cancer Center: We have initiated an investigator-sponsored Phase 1 clinical trial for TIDAL-01 in collaboration with Moffitt and are targeting enrollment of approximately 25 patients across three cohorts including:

- Patients with cutaneous (non-acral) melanoma having failed prior anti-PD-(L)1, anti-CTLA-4, and BRAF+/- MEK inhibitor if BRAF V600 mutant.
- Patients with acral, mucosal, or uveal melanoma having failed prior standard of care in the opinion of the investigator.
- Patients with melanoma (cutaneous, mucosal, or uveal) undergoing therapeutic resection whose tissue samples were collected and banked and who have a high likelihood of recurrence or progression within two years. TIDAL-01 product will only be generated and administered to these patients at time of recurrence.

All patients across our trials will undergo surgery to remove a small amount of their tumor to initiate the manufacturing process. The patient-specific TIDAL-01 product candidate will be manufactured and sent back to the clinical site, and patients will be treated with a conditioning regimen that includes lymphodepleting chemotherapy prior to treatment with TIDAL-01 and treatment with IL-2 following TIDAL-01 infusion, to support further proliferation of TIDAL-01 *in vivo*. Both lymphodepleting chemotherapy and treatment with IL-2 are standard for bulk TIL therapies.

In our multi-site solid tumor trial, patients will also be receiving pembrolizumab as their anti-PD-(L)1 treatment two weeks after the TIDAL-01 infusion. Combination with anti-PD-(L)1 has the potential to enhance and prolong the therapeutic benefit of TIDAL-01 by minimizing PD-1 driven T cell exhaustion in indications where anti-PD-(L)1 monotherapy has demonstrated little to no therapeutic benefit. Pembrolizumab will be dosed every three weeks until confirmed progressive disease or CR. Additionally as part of our multi-site solid tumor trial we are also exploring the inclusion of low dose radiation therapy, or LDRT as part of the conditioning regimen with the first dose of LDRT administered immediately prior to the TIDAL-01 infusion and the second dose administered following IL-2 treatment, prior to initiating pembrolizumab. Inclusion of LDRT as part of the conditioning regimen, has the potential to enhance T cell penetration into the tumor and reduce the inhibitory tumor stroma microenvironment to further potentiate the depth of response to TIDAL-01. Lastly, we are also exploring expansion into additional indications including non-small cell lung cancer and head and neck squamous cell carcinoma.

The primary endpoint of both trials will be safety and tolerability of TIDAL-01, with secondary endpoints focusing on efficacy based on measures including ORR and durability of response. Additionally, TIDAL-01 clinical translational studies will include investigational endpoints, including TCR sequencing and detailed T cell subset immunophenotyping, that are designed to define the pharmacokinetic profile of the selected TIL drug

products together with key aspects of pharmacodynamic profiles. These data will be correlated with clinical outcomes and are anticipated to corroborate clinical safety and efficacy observations, enable future refinement of clinical dosing regimens and, in combination with drug product characterization data collected during manufacture, support the validation of mechanistically relevant potency release endpoints. We intend to provide an initial clinical update across these two trials in .

TIDAL-02

Overview

TIDAL-02 is our next Selected TIL program where we are developing a next generation streamlined manufacturing process designed for selecting tumor-reactive T cells and additional modifications to enhance TIL quality and function. We believe that streamlined manufacturing has the potential to provide commercial advantages, as well as enable access to solid tumor indications where patients may progress rapidly. The TIDAL-02 manufacturing process targets less than three weeks of production time and will seek to employ a direct selection process step that utilizes our proprietary combination of selection markers to select for the greatest breadth of tumor-reactive T cells without requiring sequencing or peptide generation. Additionally, we believe that enhancing quality, function, and phenotype of T cells has the potential to drive even deeper and more durable responses in solid tumors. To enhance Selected TIL quality and function, we are assessing two key strategies: (i) culture enhancements to improve and maintain quality and function of the Selected TILs during *ex vivo* cell expansion and (ii) evaluation of functional genetic modifications of the Selected TILs to ensure durable enhancements to TIL quality and persistence *in vivo*. We believe that TIDAL-02 has the potential to address the unmet medical need in solid tumor indications that are distinct but complementary to TIDAL-01, with the goal of moving into earlier lines of therapy. TIDAL-02 is currently in preclinical development.

TIDAL-02 Process Parameters

We are currently assessing three key process parameters to guide development of our TIDAL-02 product candidate that will be advanced into IND enabling studies. These three process parameters include: direct selection, gene editing, and enhanced isolation and expansion, as described below.

- *Direct Selection*: Our direct selection process for TIDAL-02 will seek to utilize our proprietary combination of clinically defined selection markers to select for the greatest breadth of tumor-reactive T cells directly from the TIL population generated in the enhanced isolation process (see below). These selection markers are intended to be indication agonistic and have the potential to recognize cell surface receptors that are present only on the surface of tumor-reactive T cells. We will then physically sort the tumor-reactive T cells from the bystander cells that are not tumor-reactive, on the basis of these selection markers. Our ongoing collaboration with Dr. Simon Turcotte at the Centre Hospitalier de l'Université de Montréal is enabling us to screen and evaluate the application of our proprietary mix of direct selection markers across a broad range of solid tumors.
- *Gene Editing*: We are assessing and prioritizing clinically informed targets for functional genetic modifications that we believe have the potential to drive durable TIL quality and persistence *in vivo*. These gene edits will be designed to modify the tumor-reactive T cells to proliferate while resisting exhaustion post infusion, minimize their dependance on exogenous IL-2 for *in vivo* proliferation, and maintain their potential to kill tumors in suppressive tumor microenvironments. We plan to introduce these genetic modifications into our sorted population of directly selected TILs.
- *Enhanced Isolation and Expansion*: We are developing a set of culture media supplements to enhance our isolation and/or expansion steps. These supplements incorporate a mix of cytokines with the potential to rejuvenate dysfunctional and/or exhausted T cells. We aim to use these enhancements to improve and maintain TIL quality and function in culture to deliver a high-quality infusion product.

Selected TIL and Viral Immunotherapy

Overview

We believe that we are strongly positioned to be a leader in leveraging viral immunotherapy to further potentiate the therapeutic benefit of TILs. Viruses are naturally adept at reprogramming the TME, and we believe that our proprietary viral immunotherapies can be tailored to drive the best combination approach for TILs.

We are initially evaluating viral immunotherapies in combination with our lead Selected TIL product candidate, TIDAL-01, via two approaches: (i) administration of virus prior to TIL extraction to optimize TIL harvest and broaden applicability to additional tumor types with low immune cell infiltration, and (ii) administration of virus following treatment with TIDAL-01 to optimize TIL trafficking and infiltration into solid tumors and to support the anti-tumor functions of infiltrating immune cells. We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

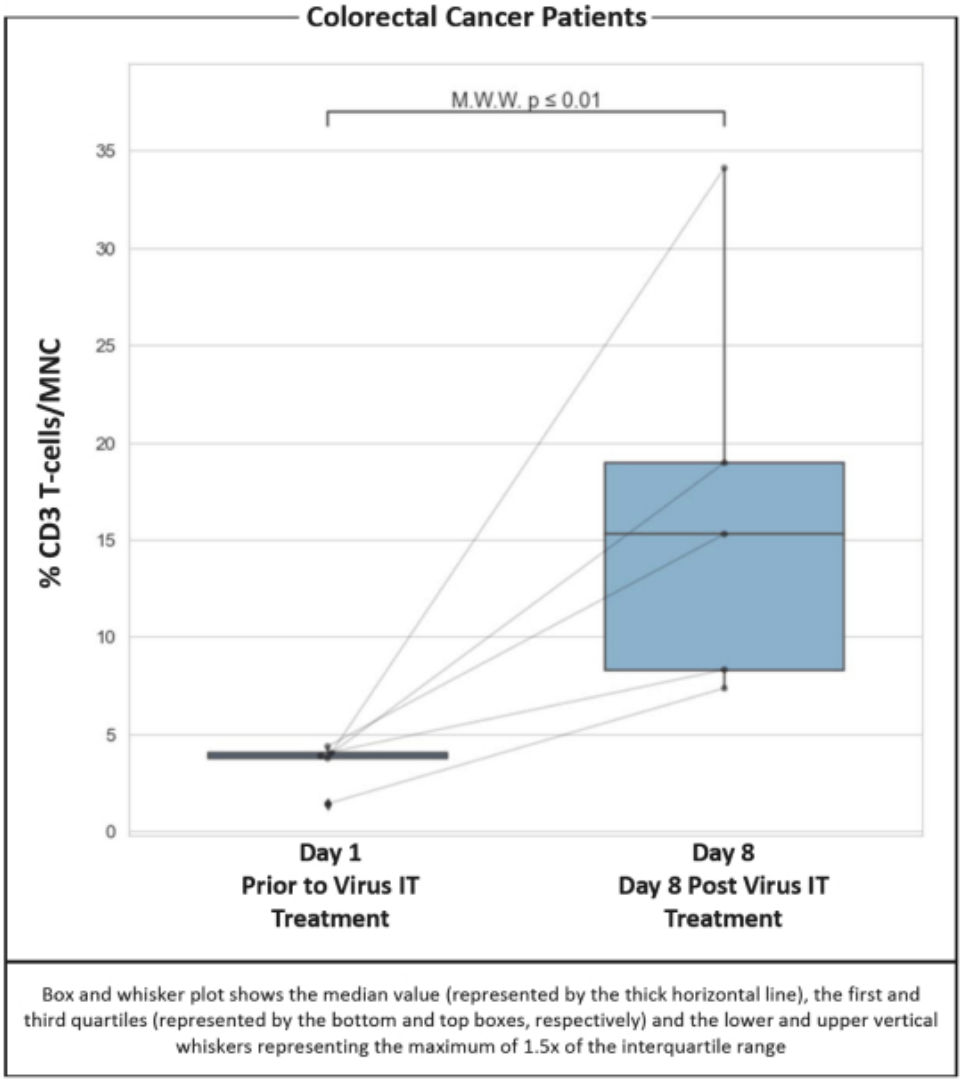
Selected TIL and Viral Immunotherapy Combination Strategies

- *TIDAL-01 + Virus Pre-treatment:* We believe that treating patients with virus, prior to surgical resection of the tumor sample, has the potential to drive a superior TIL harvest that can result in a more potent TIDAL-01 product for the patient. Intra-tumoral, or IT, administration of virus into the tumor site targeted for TIL resection has the potential to disrupt the tumor cells via oncolytic killing and expose new antigens to the immune system thus driving a larger and more diverse population of tumor-reactive T cells into the tumor bed. We believe that pre-treatment of a patient with virus will enable a superior TIL harvest, with the potential to increase the quality, quantity, and breadth of TILs. We plan to target this approach specifically to patients for whom and indications for which the TIL yield is typically low, often leading to failure in generating a therapeutic product for the patient.
- *TIDAL-01 + Virus Post-treatment:* Viral immunotherapy has the potential to reprogram the immunosuppressive tumor microenvironment (*e.g.*, turn a ‘cold’ tumor ‘hot’) potentiating TIL infiltration, function, and proliferation within the tumor. In addition, the presence of virus at the tumor site can serve as a beacon to call TILs to the site of the tumor. Treating the patient with virus following TIDAL-01 has the potential to produce deep and durable response to TIDAL-01 treatment across several challenging solid tumors. We believe this combination strategy could be particularly effective in indications with highly suppressive TMEs that typically are resistant to immune mediated treatment regimens.

Clinical Evidence Supporting Viral Immunotherapy Combination

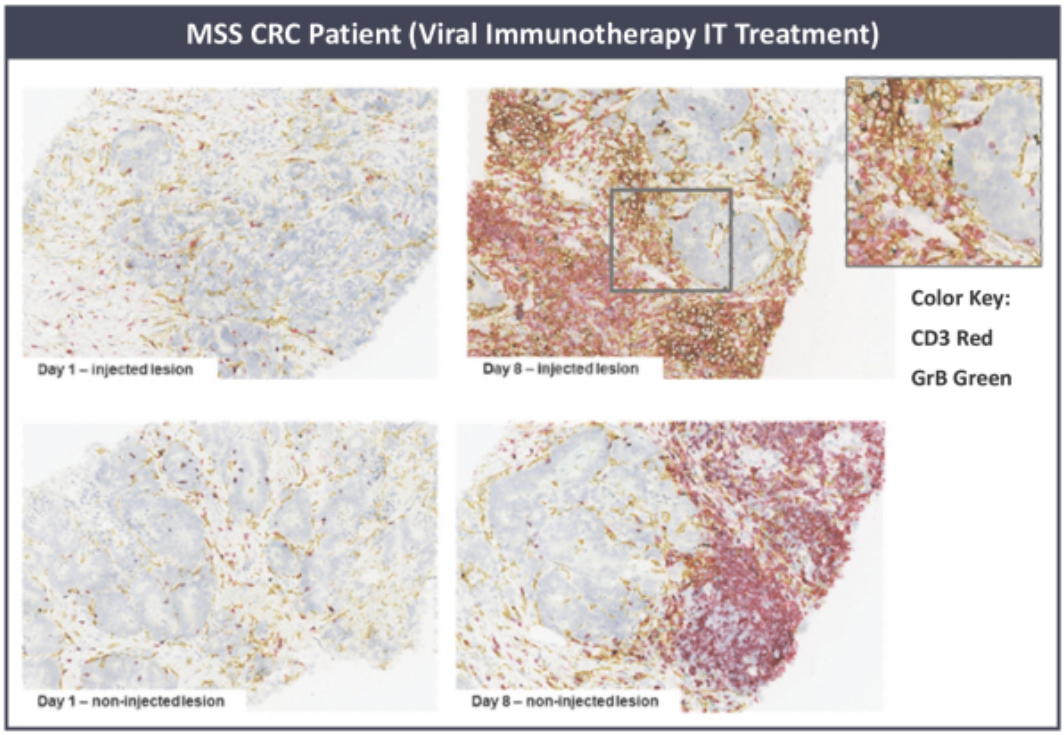
In our clinical experience with viral immunotherapy, we have observed viruses improve immune cell infiltration of the tumor with favorable tolerability. Based on clinical experience with one of our proprietary viral immunotherapies, we have seen encouraging translational data supporting the biological rationale for combination of our Selected TILs with viral immunotherapies.

The graph below shows comparative translational data for colorectal cancer patients from a prior clinical trial who had available paired tumor biopsies prior to and seven days following IT administration of one of our proprietary viral immunotherapies. We have observed increased T cell infiltration in the injected lesion, seven days following virus IT administration, across multiple colorectal cancer patients as evidenced in the graph below.



Box and whisker plot shows the median value (represented by the thick horizontal line), the first and third quartiles (represented by the bottom and top boxes, respectively) and the lower and upper vertical whiskers representing the maximum of 1.5x of the interquartile range

We have also observed that our proprietary viruses turned “cold” tumors “hot” by driving T cells into tumors that were immunologically cold due to highly suppressive TMEs. This was exemplified by immunohistochemical evidence of increased CD3+ cells with a cytotoxic phenotype (granzyme B expression) in a MSS-colorectal cancer patient in both injected and non-injected tumors following IT administration of one of our proprietary viral immunotherapies.



We believe that these data suggest that our viral immunotherapies have the potential to increase the number of intra-tumoral T cells across multiple solid tumor types, including tumors with an immunosuppressive TME and provides support for both pre- and post-treatment combination approaches with our Selected TIL pipeline programs.

Translational Assessment and Development Strategy

We are collaborating with the NCI to evaluate the generation of tumor-reactive T cells, which form the basis of our Selected TILs, from clinical tissue samples obtained from patients treated with our proprietary viral immunotherapies. NCI investigators are using NCI-developed methods and proprietary in vitro techniques to study lymphocytes derived from these patients, characterize their TCR specificity, and evaluate their persistence. We and the NCI plan to jointly analyze data and exchange information and expertise to advance the development of oncolytic viruses as a method for the generation of Selected TILs.

We are currently evaluating the optimal viral immunotherapy for combination with TIDAL-01 to advance into clinical development.

Manufacturing

We have established both internal and external technical operations, manufacturing, quality, and supply chain capabilities that support our pre-clinical and clinical assets. We have fully operational TIL cell therapy process and analytical development operations at our facility in San Diego, California. The site is approximately 20,000 square feet, and we have assembled an experienced team of cell therapy CMC experts. Our team of experts has completed technology transfer of TIDAL-01 to our U.S.-based CDMO, Charles River Laboratories, and our manufacturing sciences group is fully enabled to support development efforts across our Selected TIL pipeline. As of March 31, 2023, our technical operations team is composed of 38 employees spanning expertise across core CMC functional areas, including upstream and downstream process development, bioanalytical sciences, formulation, process scale-up, technology transfer, quality control, manufacturing operations, packaging, distribution, and supply chain.

To support our TIDAL product candidate and pipeline programs, we have formed deep partnerships across a global network of CDMOs that specialize in bioprocess development, testing, cGMP manufacturing, formulation and filling, packaging, controlled temperature storage, and distribution. For TIDAL-01, this includes a close partnership with the Cell Therapy Facility at Moffitt Cancer Center, responsible for cGMP manufacturing, testing, release, and distribution of Selected TIL to the clinical investigators at Moffitt under our investigator sponsored clinical trial. We have separate partnerships, fully controlled and supervised by us, for the sequencing and peptide manufacturing portions of the TIDAL-01 manufacturing process. In parallel, we have completed a technology transfer of the TIDAL-01 Selected TIL manufacturing process to a U.S.-based CDMO. We intend for this to be our primary cGMP manufacturing partner for clinical supplies for TIDAL-01, to serve multiple clinical sites, independent and complimentary to our partnership with Moffitt. In addition to this core TIL cell therapy manufacturing network, we have a network of contract testing partners to fully enable our quality control and analytical release testing program, for our TIDAL pipeline that is managed by our internal quality control team. Except for the Moffitt-sponsored TIDAL-01 clinical trial, all clinical trial materials for use in clinical trials are released, stored, and managed under our quality systems.

As clinical trial development progresses forward, technical operations will scale in a complimentary approach, exploring both internal capabilities as well as deepening and expanding external relationships to ensure we remain in full control of our CMC development, through commercialization.

Commercialization

We do not currently have a commercial organization for the marketing, sales, and distribution of products. We are advancing our clinical product candidate and pipeline programs for the treatment of patients with solid tumors, most of whom are treated in specialized treatment centers or hospitals.

We plan to build our global commercialization capabilities internally over time such that we are able to commercialize any product candidate for which we may obtain regulatory approval. While we hold global rights to our product candidates, we may selectively pursue strategic collaborations with third parties in order to maximize the commercial potential of our product candidates.

Competition

The biotechnology and pharmaceutical industries are characterized by the rapid evolution of technologies and understanding of disease etiology, significant investment, and a strong emphasis on intellectual property. While we believe that our differentiated scientific expertise in the field of cancer immunotherapy provides us with competitive advantages, we face potential competition from multiple sources, including major pharmaceutical, specialty pharmaceutical and existing or emerging biotechnology companies, as well as from academic institutions, governmental agencies, and public and private research institutions. We anticipate that we will face intense and increasing competition as new drugs and therapies enter the market and advanced technologies become available. Many of our competitors, either alone or with their strategic collaborators, have

substantially greater financial, technical, and human resources than we do. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. These entities also compete with us in recruiting and retaining qualified scientific, manufacturing, and management personnel and establishing clinical trial sites and patient enrollment in clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. As a result, our competitors may discover, develop, license, or commercialize products before or more successfully than we do.

We face competition from segments of the pharmaceutical, biotechnology, and other related markets that pursue the development of TIL or other cell therapies for the treatment of solid tumors. Companies that are developing TIL therapies include Iovance Biotherapeutics, Inc., Achilles Therapeutics plc, Instil Bio, Inc., Intima Bioscience, Inc., KSQ Therapeutics, Inc., Lyell Immunopharma, Inc., Obsidian Therapeutics, Inc, and others. In addition, we may face competition from companies focused on CAR-T and TCR-T cell therapies for solid tumors, such as Adaptimmune Therapeutics PLC, Adicet Bio, Inc., Alaunos Therapeutics, Inc., Atara Biotherapeutics, Inc., and Immatics N.V. Other privately held biotechnology companies are evaluating neoantigen directed T cell approaches. We cannot predict whether new types of immunotherapies including novel checkpoint inhibitors may be enhanced and show greater efficacy, and we may have direct and substantial competition from such immunotherapies in the future. In addition, there are companies utilizing other cell-based approaches that may be competitive to our product candidates. More effective small molecules, cancer vaccines and other approaches may be developed and used as first line or second line treatments, which would reduce the opportunity for our Selected TIL therapies. Furthermore, we also face competition more broadly across the oncology market for cost-effective and reimbursable cancer treatments.

The most common methods of treating patients with cancer are surgery, radiation, and drug therapy, including chemotherapy, hormone therapy, biologic therapy, such as monoclonal and bispecific antibodies, immunotherapy, cell-based therapy and targeted therapy, or a combination of any such methods. There are a variety of available drug therapies marketed for cancer. In many cases, these drugs are administered in combination to enhance efficacy. While our TIL product candidates, if any are approved, may compete with these existing drugs and other therapies, to the extent they are ultimately used in combination with or as an adjunct to these therapies, our TIL products may not be competitive with them. Some of these drugs are branded and subject to patent protection, and others are available on a generic basis. Insurers and other third-party payors may also encourage the use of generic products or specific branded products. As a result, obtaining market acceptance of, and gaining significant share of the market for, any of our TIL therapies that we successfully introduce to the market may pose challenges. In addition, many companies are developing new oncology therapeutics, and we cannot predict what the standard of care will be as our product candidates progress through clinical development. We could see a reduction or elimination in our commercial opportunity if our competitors develop and commercialize drugs that are safer, more effective, have fewer or less severe side effects, are more convenient to administer, are less expensive or with a more favorable label than our TIL product candidates. Our competitors also may obtain FDA or other regulatory approval for their drugs more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

Myst Merger Agreement

In December 2020, we entered into the Myst Merger Agreement, by and among our company, Flatiron Merger Sub I, Inc., or Merger Sub, Flatiron Merger Sub II, LLC, or Merger LLC, a direct, wholly-owned subsidiary of ours, Myst Therapeutics, Inc., or Myst, and Timothy Langer, the sole common stockholder of Myst, or Langer. Pursuant to the Myst Merger Agreement, the business combination, or the Merger, was effected in two steps. The first step was the merger of Merger Sub with and into Myst. The second step was the merger of Myst with and into Merger LLC. The Merger closed on December 14, 2020 and the effective date of the Merger was January 20, 2021. As a result of the Merger, the separate existences of Merger Sub and Myst ceased, and Merger LLC became our wholly-owned subsidiary.

Pursuant to the Myst Merger Agreement, on December 15, 2020, we paid the former equity holders of Myst, or the Myst Holders, a one-time up-front payment of $9.0 million in cash. We paid an additional cash consideration of $1.0 million to the Myst Holders on June 14, 2022. We also issued Langer 5,798,069 shares of our common stock. Of these shares, 2,899,035 shares of our common stock were issued upon the closing of the Merger and the remaining 2,899,034 shares were held in escrow with 25% vesting in December of each year that Langer remains our employee. As of December 31, 2022, Langer is still employed by our company and 1,499,517 shares of our common stock have vested and been released from escrow, with the remaining 1,449,517 shares of our common stock to be released in equal annual installments over the next two years based on his continued employment.

In addition, under the Myst Merger Agreement, each Myst Holder is entitled to receive certain payments as consideration based on the achievement by us of three predefined milestones. The initial milestone is the closing of an initial public offering, which will be triggered by the closing of this offering, the second milestone is the first acceptance by the FDA of an IND filed by, on behalf of or for the benefit of us, or the our sublicensees for a product being developed by or on behalf of us or our sublicensees that is claimed as a product or method of making or using the product by a pending or issued Myst patent claim existing at the time of such acceptance, and the third milestone is the occurrence of the earlier of (i) the commencement of the first registration study for a product being developed by, on behalf of or for the benefit of us or our sublicensees that is claimed as a product or a method of making or using the product by an issued Myst patent claim existing as of the time of such commencement or (ii) the issuance of a Myst patent claim that claims a product or method of making or using the product then being developed by, on behalf of or for the benefit of us or our sublicensees, that is or was the subject of a registration study that has or had commenced. The milestones are not contingent on one another, and the milestones do not need to be achieved in any specific order.

Within 45 days of the achievement of the initial milestone, which the closing of this offering triggers, we are obligated to pay the Myst Holders an aggregate amount equal to $3.0 million. At our election, we may pay this consideration in cash or in shares of our common stock. The fair market value of our common stock measured after this offering, is the volume weighted-average closing price of our common stock on Nasdaq for the consecutive 20 trading day period ending on the last trading day on or prior to the date on which the milestone was earned pursuant to the Myst Merger Agreement.

Within 45 days of the achievement of the second milestone, we are obligated to pay the Myst Holders an aggregate amount equal to $10.0 million. At our election, we may pay this consideration in cash or in shares of our common stock. In May 2022, this $10.0 million milestone was achieved, and we elected to pay $5.0 million in shares of our common stock and $5.0 million in cash. We entered into a letter agreement dated July 25, 2022 with the former equityholders of Myst regarding the $10.0 milestone payment that became due and owing to the Myst Holders, in which we agreed to pay to the former optionholders of Myst on or before July 28, 2022 $1.0 million in cash, with the remaining $9.0 payable to Langer as follows: (i) on or before July 28, 2022, $2.2 million in cash, (ii) on or before July 31, 2022, $5.0 million in shares of our common stock and (iii) on or before January 10, 2023, $2.2 million in cash. On June 8, 2022, we issued Langer 1,694,915 shares of our common stock to settle the $5.0 million obligation payable in common stock. We then paid the Myst Holders $2.8 million in July 2022, with $2.2 million paid to Langer and $0.6 million paid to the remaining Myst Holders, and the remaining $2.2 million was paid to Langer in January 2023.

Within 45 days of the achievement of the third milestone, we are obligated to pay the Myst Holder an aggregate amount equal to $20.0 million. At our election, we may pay this consideration in cash or in shares of our common stock.

Pursuant to the Myst Merger Agreement, we had agreed to use commercially reasonable efforts to (i) cause a registration statement covering the sale on a continuous basis of the shares of our common stock to be declared effective as soon as reasonably practicable after filing such registration statement or (ii) register the resale of such shares of our common stock under an existing registration statement without amendment. Langer has waived his registration rights in connection with this offering.

Collaboration Agreements

Moffitt Collaboration Agreements

Master Collaboration Agreement

In January 2021, we entered into an amended and restated master collaboration agreement, or the Moffitt Agreement, with Moffitt, to amend a then-existing master collaboration agreement from November 2019, as amended March 2020, between Moffitt and our now wholly-owned subsidiary, Myst Therapeutics LLC, with the intent to continue to work collaboratively in the research of cancer immunotherapies.

Each party granted the other party a right to use its research materials for performance of the research plans agreed to by the parties, or Research Plans. Each party granted the other party a non-exclusive, worldwide, sublicensable, perpetual, irrevocable, royalty-free license under all inventions invented in performance of a Research Plan and invented jointly by us and Moffitt, or Joint Inventions (with certain exclusions) to make, use, sell, offer for sale, import products and services and/or otherwise practice such inventions.

We granted Moffitt a royalty free, non-sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented solely by us in the performance of a Research Plan for its internal non-commercial research purposes.

Moffitt granted us (i) a royalty-free, sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented solely by Moffitt in the performance of a Research Plan, or Moffitt Inventions, (a) for internal, non-commercial research purposes outside the field of ACT and/or (b) to research, develop, make, use, sell, offer to sell, or import products and/or services in the field of ACT and (ii) a royalty free, sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented in performance of a Research Plan or through the use of specified Moffitt research materials.

Moffitt granted us an option to obtain, with terms to be negotiated in good faith under commercially reasonable terms, a royalty-bearing, sublicensable exclusive license in the Moffitt Inventions, the TCR Inventions, and/or Moffitt's interest in Joint Inventions. We can exercise this option at any time within six months after Moffitt informs us of any new invention, and upon our exercise, the parties will have a period of six months to negotiate the terms of such exclusive license.

The Moffitt Agreement will expire upon the later of (i) four years from the effective date of the Moffitt Agreement or (ii) the termination or expiration of all Research Plans in effect under the Moffitt Agreement, unless extended upon mutual written agreement of the parties. Either party may terminate the Moffitt Agreement for cause upon any uncured breach by the other party or upon the insolvency of the other party.

Moffitt Alliance Agreement

In June 2022, we entered into a life science alliance agreement with Moffitt, or the Alliance Agreement, in order to further expand our relationship and support our existing agreements with Moffitt, or the Underlying Agreements. Pursuant to the Alliance Agreement, we will have priority access to Moffitt's scientific research, manufacturing, and clinical capabilities for the development of novel TIL therapies, including expedited clinical trial activation, enhanced patient screening and data sharing, access to Moffitt's cellular therapies research and development infrastructure, expanded molecular data sets and biospecimens for research, and allocated cGMP manufacturing capacity for our product candidates.

Under the Alliance Agreement, we are obligated to use commercially reasonable efforts to further develop TIL Products, to manufacture TIL Products, to obtain regulatory approval for at least one TIL Product in the United States and to commercialize TIL Products in all countries in which regulatory approval for a TIL Product has been obtained. For purposes of the Alliance Agreement, TIL Product means any pharmaceutical, biopharmaceutical, or biotechnology TIL product that has been developed by us or Moffitt and is advanced into clinical development under an IND sponsored by Moffitt.

Pursuant to the Alliance Agreement, we have agreed to pay to Moffitt a total amount of at least $17.5 million, the Alliance Funding Amount, for research, development and manufacturing related services that will be paid in five equal annual installments on June 1st of each year starting on June 1, 2023. However, the aggregate amount we pay to Moffitt for all fees, costs, expenses and other payments pursuant to any Underlying Agreement with Moffitt entered into subsequent to February 7, 2022 may be credited against the Alliance Funding Amount. This reimbursement amount will be calculated annually at the conclusion of each payment period, and, to the extent our annual aggregate payments to Moffitt exceed the applicable annual installment amount, we will receive a reduction in the amount due for future installment payments based on a predetermined formula agreed to by the parties.

In connection with the execution of the Alliance Agreement, we issued Moffitt 732,600 shares of our common stock. As partial consideration under the Alliance Agreement, we also agreed to issue Moffitt an additional 2,930,403 shares of our common stock in the aggregate upon the satisfaction of certain clinical and regulatory milestones with respect to TIL Products. In addition, upon achievement of certain thresholds for aggregate net sales of all TIL Products, we are required to make tiered sales-based milestones payments to Moffitt of up to an aggregate of $50.0 million. With respect to each of the equity and sales milestones described above, TIL products include any pharmaceutical, biopharmaceutical or biotechnology TIL product that is developed by us or Moffitt and is advanced into clinical development under an IND sponsored by Moffitt.

Unless earlier terminated, the Alliance Agreement will remain in effect for a term of five years and may be extended for additional periods upon the mutual written consent of both parties. Either party may terminate the Alliance Agreement in the event of (i) the other party's material breach of the Alliance Agreement that remains uncured after ninety days of receiving written notice of such breach (or in the case of breach of payment obligations, within ten days), (ii) the other party's insolvency and (iii) a pandemic event resulting in government lockdowns or orders that legally compel such party to cease operations or that result in material disruptions in the available workforce and prevents such party from performing its contractual obligations for a period of more than six months. At any time after June 1, 2025, either party may terminate the Alliance Agreement without cause upon sixty days prior written notice to the other party, or a Termination for Convenience. Upon a Termination for Convenience, the terminating party shall pay to the other party a termination fee in an amount equal to a low double digit percentage of the then remaining Alliance Funding Amount. Termination or expiry of one or more Underlying Agreements does not affect the term of the Alliance Agreement, which will continue to apply to the remaining ongoing Underlying Agreements.

Intellectual Property

Our commercial success may depend in part on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions, improvements and know-how related to our business; defend and enforce our patents and other intellectual property; preserve the confidentiality of our trade secrets; and operate without infringing or otherwise violating the valid enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making, using, selling, offering to sell or importing our products and methods may depend on the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities. With respect to both licensed and company-owned intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our commercial products and methods of manufacturing the same. We may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets can be difficult to protect. See "Risk Factors—Risks Related to Our Intellectual Property."

We actively seek to protect our proprietary technology, inventions, and other intellectual property that is commercially important to the development of our business by a variety of means, such as seeking, maintaining, and defending patent rights, whether developed internally or licensed from third parties. We also may rely on trade secrets and know-how relating to our proprietary technology platform, on continuing technological innovation and on in-licensing opportunities to develop, strengthen and maintain the strength of our position in the field of cell therapy that may be important for the development of our business. We may also seek patent protection or rely upon trade secret rights to protect other technologies that may be used to discover and validate targets, as well as

to manufacture and develop novel cell or viral therapy products. Additional regulatory protection may also be afforded through data exclusivity, market exclusivity and patent term extensions where available.

As of May 2, 2023, we own or exclusively license 14 issued U.S. patents and 96 issued foreign patents in Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, Great Britain, Hong Kong, India, Ireland, Israel, Italy, Japan, Lebanon, Luxembourg, Mexico, Netherlands, Russia, and Spain. We currently own or exclusively license 13 pending U.S. patent applications, eight U.S. provisional applications, and 121 pending foreign patent applications in Algeria, Argentina, Australia, Brazil, Canada, Chile, China, Colombia, Egypt, Europe, Gulf Coast Cooperation, Hong Kong, India, Israel, Japan, Korea, Malaysia, Mexico, New Zealand, Peru, Philippines, Singapore, South Africa, Thailand, Ukraine and Vietnam.

TIL Therapy, Including TIDAL-01

We own four patent families related to TIL therapy that are filed worldwide. The first TIL-001, includes 12 patent applications pending in Australia, Brazil, Canada, China, Europe, Hong Kong, India, Israel, Korea, Mexico, New Zealand and the United States. The TIL-001 patent applications are directed to a processing method for producing autologous T cells for the treatment of cancer and resulting cell therapy compositions, which, if issued, are expected to expire in 2040, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

The second family, TIL-002, includes 13 patent applications pending in Australia, Brazil, Canada, China, Europe, Hong Kong, India, Israel, Japan, Korea, Mexico, New Zealand and the United States. The TIL-002 patent applications are related to further aspects of processes for producing a TIL therapy and related compositions and methods, and patents that issue from this family, if any, are expected to expire in 2040, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

The third family, TIL-003, includes 10 patent applications pending in Australia, Canada, China, Europe, Hong Kong, Israel, Japan, Korea, New Zealand and the United States. The TIL-003 patent applications are directed to methods of producing tumor-reactive T cell compositions using modulatory agents, and patents that issue from this family are expected to expire in 2040, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

The fourth family, TIL-004, includes 12 patent applications pending in Australia, Brazil, Canada, China, Europe, Israel, India, Japan, Korea, Mexico, New Zealand and the United States. The TIL-004 patent applications are directed to methods for ex vivo enrichment and expansion of tumor-reactive T cells and related compositions, and any patents that issue from this family are expected to expire in 2041, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

We own four provisional application families, in which, if patents from applications claiming priority to these provisional applications issue, the patents are expected to expire in 2043 or 2044, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees. One provisional application family is directed to methods of producing tumor-reactive T cell compositions using multi-specific binding agents. We have two provisional application families directed to particular TIL compositions and related methods, and a further provisional application family directed to combination of TILS and viral immunotherapy.

Additional Miscellaneous Virus IP

We have 10 pending patent families covering oncolytic Maraba rhabdoviruses, including 109 issued patents and 17 pending applications. If patents issue from each pending family, the patents are expected to expire from 2027 to 2039, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

We have six patent families covering oncolytic Farmington rhabdoviruses, including 12 issued patents and 18 pending applications, which includes 1 pending U.S. provisional patent application. If patents issue from each family, the patents are expected to expire from 2032 to 2043, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

We have one patent family covering a method of treating cancer by combining ACT and an oncolytic virus vaccine including six issued patent and five pending applications. Any patents issuing from this family are expected to expire in 2037, without taking into account any possible patent term adjustment or extension and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees.

Government Regulation and Product Approval

Government authorities in the United States (at the federal, state and local level) and in other countries extensively regulate, among other things, the research, development, testing, manufacturing, quality control, safety, effectiveness, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of biopharmaceutical products such as those we are developing.

Our product candidates must be approved by the FDA before they may be legally marketed in the United States and by the appropriate foreign regulatory authority before they may be legally marketed in foreign countries. Generally, our activities in other countries will be subject to regulation that is similar in nature and scope as that imposed in the United States, although there can be important differences. Additionally, some significant aspects of regulation in the European Union are addressed in a centralized way, but country-specific regulation remains essential in many respects. The process for obtaining regulatory approvals and the subsequent compliance with federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

U.S. Product Development Process

In the United States, the FDA regulates biological products, or biologics, under the Federal Food, Drug and Cosmetic Act, or FDCA, the Public Health Service Act, or PHSA, and their implementing regulations. The process required by the FDA before a biological product may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests and animal studies according to good laboratory practices, requirements, or GLPs, and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;
- approval by an independent Institutional Review Board or ethics committee at each clinical site before the trial is commenced;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as GCPs and any additional requirements for the protection of human research patients and their health information, to establish the safety, purity and potency (or efficacy) of the proposed biological product for its intended use;
- submission to the FDA of a biologics license application, or BLA, seeking marketing approval that includes substantial evidence of safety, purity, and potency from results of nonclinical testing and clinical trials;
- a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;

- satisfactory completion of an FDA Advisory Committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced to assess compliance with current good manufacturing practice requirements, or cGMPs, to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity;
- potential FDA audit of the nonclinical study and clinical trial sites that generated the data in support of the BLA; and
- FDA review and approval of the BLA.

Before testing any biological product candidate, including our product candidates, in humans, the product candidate enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLPs. The clinical trial sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical testing may continue even after the IND is submitted. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises safety concerns or questions regarding the proposed clinical trials and places the trial on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or non-compliance. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA.

In addition to the submission of an IND to the FDA before initiation of a clinical trial in the United States, certain human clinical trials involving recombinant or synthetic nucleic acid molecules are subject to oversight at the local level as set forth in the National Institutes of Health Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules, or NIH Guidelines. Specifically, under the NIH Guidelines, supervision of human gene transfer trials includes evaluation and assessment by an Institutional Biosafety Committee, or IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment, and such review may result in some delay before initiation of a clinical trial. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, companies and other institutions not otherwise subject to the NIH Guidelines may voluntarily follow them.

Clinical trials involve the administration of the biological product candidate to patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur. Each protocol and any amendments to the protocol must be submitted to the FDA as part of the IND. Clinical trials must be conducted and monitored in accordance with the FDA's regulations comprising the GCP requirements, including the requirement that all subjects provide informed consent. Further, each clinical trial must be reviewed and approved by an independent IRB at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is

unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1. The biological product is initially introduced into healthy human subjects or patients with the target disease or condition and tested for safety. These studies are designed to test the safety, dosage tolerance, absorption, metabolism, and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness.
- Phase 2. The biological product is evaluated in a limited patient population with a specified disease or condition to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for the specific targeted diseases or condition and to determine dosage tolerance, optimal dosage and dosing schedule. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.
- Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk to benefit ratio of the product and provide an adequate basis for product approval.
- Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. During all phases of clinical development, regulatory authorities require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA, and the investigators for serious and unexpected adverse events, findings from other studies suggesting a significant risk to humans exposed to the same or similar product, findings from, animal or in vitro testing suggesting a significant risk to humans, and any clinically important increased incidence of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor’s initial receipt of the information. In addition, during the development of a new biological product, sponsors are given opportunities to meet with the FDA at certain points, including prior to submission of an IND, at the end of Phase 2, and before a BLA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice, and for the sponsor and the FDA to reach alignment on the next phase of development. Sponsors typically use the meetings at the end of the Phase 2 trial to discuss Phase 2 clinical results and present plans for the pivotal Phase 3 clinical trials that they believe will support approval of the product candidate.

Concurrently with clinical trials, companies usually complete additional studies and must also develop additional information about the physical characteristics of the biological product as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. To help reduce the risk of the introduction of adventitious agents with use of biological products, the PHSA emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency and

purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Processes

After the completion of clinical trials all required testing of a biological product in accordance with all applicable regulatory requirements, the results of product development, preclinical studies and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product candidate for one or more indications. FDA approval of a BLA must be obtained before commercial marketing of the biological product. The BLA submission must include results of all relevant data available from preclinical and clinical studies, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of a use of the product candidate, or from a number of alternative sources, including studies initiated by independent investigators.

Under the Prescription Drug User Fee Act, as amended, or PDUFA, each BLA must be accompanied by a significant user fee. The FDA adjusts the PDUFA user fees on an annual basis. PDUFA also imposes an annual program fee for biological products. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on BLAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA's goal is to review standard applications within ten months after the filing date, or, if the application qualifies for priority review, six months after the FDA accepts the application for filing. In both standard and priority reviews, the review process may also be extended by FDA requests for additional information or clarification. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe, pure and potent for the proposed indication, and the facility in which it is manufactured, processed, packed or held meets standards designed to assure and preserve the product's identity, safety, strength, quality, potency and purity. The FDA may refer applications for novel biological products or biological products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will generally inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND trial requirements and GCP requirements. To assure cGMP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production, and quality control.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that describes all of the specific deficiencies in the BLA identified by the FDA, except that where the FDA determines that the data supporting

the application are inadequate to support approval, the FDA may issue the complete response letter without first conducting required inspections, testing submitted product lots, and/or reviewing proposed labeling. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical trials. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product receives regulatory approval, the approval may be limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. For example, the FDA may approve the BLA with a Risk Evaluation and Mitigation Strategy, or REMS, to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with a product candidate and to enable patients to have continued access by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a risk management plan, or otherwise limit the scope of any approval. In addition, the FDA may require post marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized, and may further limit marketing of the product based on the results of these post-marketing studies.

In addition, under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any product for an indication for which orphan designation has been granted. However, if only one indication for a product has orphan designation, a pediatric assessment may still be required for any applications to market that same product for the non-orphan indication(s).

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug or biologic for this type of disease or condition will be recovered from sales in the United States for that drug or biologic. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same disease or condition for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. Orphan drug exclusivity does not prevent FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application user fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Expedited Development and Review Programs

The FDA has a fast track designation program that is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new products are eligible for fast track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. As part of the fast track program, the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

Any product, submitted to the FDA for approval, including a product with a fast track designation, may also be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. A product is eligible for priority review if the product candidate is designed to treat a serious or life-threatening disease or condition, and if approved, would provide a significant improvement in safety or effectiveness compared to available alternatives for such disease or condition. The FDA will attempt to direct additional resources to the evaluation of an application for a new product designated for priority review in an effort to facilitate the review. For original BLAs, priority review designation means the FDA's goal is to take action on the marketing application within six months of the 60-day filing date (as compared to ten months under standard review).

Additionally, a product may be eligible for accelerated approval. Products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

In addition, the FDA may grant breakthrough therapy designation to a product candidate for its indication under study. Breakthrough therapy designation is intended to expedite the development and review of products that are intended to treat serious or life-threatening conditions and that preliminary clinical evidence demonstrates that the product candidate, alone or in combination with other drugs and biologics, shows substantial improvement over currently available therapy on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. If the FDA grants a breakthrough therapy designation, it may take actions appropriate to expedite the development and review of the application, which may include holding meetings with the sponsor and the review team throughout the development of the therapy; providing timely advice to, and interactive communication with, the sponsor regarding the development of the product candidate to ensure that the development program to gather the nonclinical and clinical data necessary for approval is as efficient as practicable; involving senior managers and experienced review staff, as appropriate, in a collaborative, cross-disciplinary review; assigning a cross-disciplinary project lead for the FDA review team to facilitate an efficient review of the development program and to serve as a scientific liaison

between the review team and the sponsor; and considering alternative clinical trial designs when scientifically appropriate, which may result in smaller trials or more efficient trials that require less time to complete and may minimize the number of patients exposed to a potentially less efficacious treatment. Breakthrough therapy designation comes with all of the benefits of fast track designation, which means that the sponsor may file sections of the BLA for review on a rolling basis if certain conditions are satisfied, including an agreement with FDA on the proposed schedule for submission of portions of the application and the payment of applicable user fees before the FDA may initiate a review. The breakthrough therapy designation is a distinct status from both accelerated approval and priority review, which can also be granted to the same product if relevant criteria are met.

The FDA may also designate a product candidate as a regenerative medicine advanced therapy, or RMAT. The RMAT designation is intended to facilitate an efficient development program for, and expedited review of, any product candidate that meets the following criteria: (i) the product candidate qualifies as a RMAT, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions; (ii) the product candidate is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (iii) preliminary clinical evidence indicates that the product candidate has the potential to address unmet medical needs for such a disease or condition. RMAT designation provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate, and eligibility for rolling review and priority review of BLAs. Cell therapy candidates granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites, including through expansion to additional sites, as appropriate. RMAT-designated cell therapy candidates that receive accelerated approval may, as appropriate, fulfill their post-approval requirements through the completion of clinical studies, patient registries, or through submission of other sources of real world evidence (such as electronic health records), through the collection of larger confirmatory data sets, or via post-approval monitoring of all patients treated with such therapy prior to approval of the therapy.

Fast Track designation, priority review, accelerated approval, breakthrough therapy designation, and RMAT designation do not change the standards for approval but may expedite the development or approval process. Even if a product candidate qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Post-Approval Requirements

Biological products are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, providing the FDA with updated safety and efficacy information, product sampling and distribution, and advertising and promotion of the product.

In addition, quality control and manufacturing procedures must continue to conform to applicable manufacturing requirements after approval to ensure the long-term stability of the product. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMPs. Manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMPs and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including, among other things, recall or withdrawal of the product from the market. In addition, changes to the manufacturing process are strictly regulated, and depending

on the significance of the change, may require prior FDA approval before being implemented. Other types of changes to the approved product, such as adding new indications and claims, are also subject to further FDA review and approval.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved label to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters, or untitled letters;
- clinical holds on clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;
- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A company can make only those claims that are in accordance with the provisions of the approved label. The FDA and other authorities actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict a manufacturer's communications on the subject of off-label use of their products.

U.S. Marketing Exclusivity

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, amended the PHSA to authorize the FDA to approve similar versions of innovative biologics, commonly known as biosimilars. Biosimilarity, which requires that the biological product be highly similar to the reference product notwithstanding minor differences in clinically inactive components and that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed "interchangeable" by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued "Written Request" for such a trial.

Other U.S. Healthcare Laws and Compliance Requirements

In the United States, our current and future operations are subject to regulation by various federal, state and local authorities in addition to the FDA, including but not limited to, the Centers for Medicare & Medicaid Services, or CMS, other divisions of the U.S. Department of Health and Human Services, or HHS, (e.g., the Office of Inspector General, Office for Civil Rights and the Health Resources and Service Administration), the U.S. Department of Justice, or DOJ, and individual U.S. Attorney offices within the DOJ, and state and local governments. For example, our business practices, including our clinical research program and any future sales, marketing and scientific/educational grant programs may be required to comply with the anti-fraud and abuse provisions of the Social Security Act, the false claims laws, transparency requirements, and similar state laws, each as amended, as applicable.

The federal Anti-Kickback Statute prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term remuneration has been interpreted broadly to include anything of value. In addition, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. Rather, if "one purpose" of the remuneration is to induce referrals, the federal Anti-Kickback Statute is violated. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, and formulary managers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Our practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor.

The civil monetary penalties statute imposes penalties against any person or entity who, among other things, is determined to have presented or caused to be presented a claim to, among others, a federal healthcare program that the person knows or should know is for a medical or other item or service that was not provided as claimed or is false or fraudulent.

The federal false claims laws, including the federal False Claims Act, or FCA, impose significant penalties and can be enforced by private citizens through civil qui tam actions, prohibit, any person or entity from, among

other things, knowingly presenting, or causing to be presented, a false or fraudulent claim for payment to, or approval by, the federal government, including federal healthcare programs such as Medicare and Medicaid, or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes "any request or demand" for money or property presented to the U.S. government. For instance, historically, pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of the product for unapproved, off-label, and thus generally non-reimbursable, uses. In addition, a claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA.

HIPAA created additional federal criminal statutes that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Like the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Additionally, the federal Physician Payments Sunshine Act, or the Sunshine Act, and its implementing regulations, require that certain manufacturers of drugs, devices, biological and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) report information related to certain payments or other transfers of value made or distributed to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician practitioners (such as physician assistants and nurse practitioners), and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually to CMS certain ownership and investment interests held by physicians and their immediate family members. Failure to report accurately could result in penalties. In addition, many states also govern the reporting of payments or other transfers of value, many which differ from each other in significant ways, are often not pre-empted, and may have a more prohibitive effect than the Sunshine Act, thus further complicating compliance efforts.

Also, many states have similar, and typically more prohibitive, fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. In order to distribute products commercially, we must comply with state laws that require the registration of manufacturers and wholesale distributors of drug and biological products in a state, including, in certain states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several states have enacted legislation requiring pharmaceutical and biotechnology companies to establish marketing compliance programs, file periodic reports with the state, make periodic public disclosures on sales, marketing, pricing, clinical trials and other activities, and/or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing certain physician prescribing data to pharmaceutical and biotechnology companies for use in sales and marketing, and to prohibit certain other sales and marketing practices.

Ensuring business arrangements with third parties comply with applicable healthcare laws and regulations is a costly endeavor. If our operations are found to be in violation of any of the federal and state healthcare laws

described above or any other current or future governmental regulations that apply to us, we may be subject to significant penalties, including without limitation, civil, criminal and/or administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion from participation in government programs, such as Medicare and Medicaid, injunctions, private "qui tam" actions brought by individual whistleblowers in the name of the government, or refusal to allow us to enter into government contracts, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, additional reporting requirements and/or oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non- compliance with these laws, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we obtain regulatory approval. In the United States and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the extent to which third-party payors provide coverage, and establish adequate reimbursement levels for such products. In the United States, third-party payors include federal and state healthcare programs, private managed care providers, health insurers and other organizations.

The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price of a product or for establishing the reimbursement rate that such a payor will pay for the product. Third-party payors may limit coverage to specific products on an approved list, or also known as a formulary, which might not include all of the FDA-approved products for a particular indication. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical products, therapies and services, in addition to questioning their safety and efficacy. We may need to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. In addition, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product. Further, obtaining reimbursement for our product may be particularly difficult because of the higher prices often associated with branded drugs and drugs administered under the supervision of physicians. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. In addition, companion diagnostic tests require coverage and reimbursement separate and apart from the coverage and reimbursement for their companion pharmaceutical or biological products. Similar challenges to obtaining coverage and reimbursement, applicable to pharmaceutical or biological products, will apply to companion diagnostics.

We may develop products that, once approved, may be administered by a physician. Under currently applicable U.S. law, certain products not usually self-administered (including injectable drugs) may be eligible for coverage under Medicare through Medicare Part B. Medicare Part B is part of original Medicare, the federal health care program that provides health care benefits to the aged and disabled, and covers outpatient services and supplies, including certain biopharmaceutical products, that are medically necessary to treat a beneficiary's health condition. As a condition of receiving Medicare Part B reimbursement for a manufacturer's eligible drugs, the manufacturer is required to participate in other government healthcare programs, including the Medicaid Drug Rebate Program and the 340B Drug Pricing Program. The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of HHS as a condition for states to receive federal matching funds for the manufacturer's outpatient drugs furnished to Medicaid patients. Under the 340B Drug Pricing Program, the manufacturer must extend discounts to entities that participate in the program.

Different pricing and reimbursement schemes exist in other countries. In the European Union, or EU, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other EU member states allow companies to fix their own prices for medicines, but monitor and control company profits. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. The downward pressure on the rise in healthcare costs in general and pharmaceutical products in particular has become intense. As a result, in the EU, increasingly high barriers are being erected to the entry of new products. In the United States, the emphasis on managed care, the increasing influence of health maintenance organizations, and additional legislative changes has increased and we expect will continue to increase the pressure on product pricing. In addition, coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare Reform

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of product candidates, restrict or regulate post-approval activities, and affect the ability to profitably sell product candidates for which marketing approval is obtained. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

For example, Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, has substantially changed healthcare financing and delivery by both governmental and private insurers. Among the ACA provisions of importance to the pharmaceutical and biotechnology industries, in addition to those otherwise described above, are the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain specified branded prescription drugs and biologic agents apportioned among these entities according to their market share in some government healthcare programs that began in 2011;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program, retroactive to January 1, 2010, to 23.1% and 13% of the average manufacturer price for most branded and generic drugs, respectively, and capped the total rebate amount for innovator drugs at 100% of the Average Manufacturer Price, or AMP;
- a Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts, which through subsequent legislative amendments, will be increased to 70%, starting in 2019, off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturers' outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;

- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals beginning in 2014 and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the 340B Drug Discount Program;
- a Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;
- expansion of healthcare fraud and abuse laws, including the FCA and the Anti-Kickback Statute, new government investigative powers, and enhanced penalties for noncompliance;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected;
- a requirement to annually report certain information regarding drug samples that manufacturers and distributors provide to physicians;
- establishment of a Center for Medicare and Medicaid Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending that began on January 1, 2011; and
- a licensure framework for follow on biologic products.

Since its enactment, there have been executive, legal and Congressional challenges to certain aspects of the ACA. On June 17, 2021 the U.S. Supreme Court dismissed a challenge on procedural grounds that argued the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress. Further, prior to the U.S. Supreme Court ruling, President Biden issued an executive order that initiated a special enrollment period from February 15, 2021 through August 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructed certain governmental authorities to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. Additionally, on March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024.

On August 16, 2022, President Biden signed the Inflation Reduction Act of 2022, or IRA, into law, which among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. The IRA also eliminates the "donut hole" under the Medicare Part D program beginning in 2025 by significantly lowering the beneficiary maximum out-of-pocket cost and through a newly established manufacturer discount program. It is unclear how other healthcare reform measures, if any, will impact our business. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our products. Such reforms could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates.

Further legislation or regulation could be passed that could harm our business, results of operations and financial condition. Other legislative changes have been proposed and adopted since the ACA was enacted. For example, in August 2011, the Budget Control Act of 2011 was signed into law, which, among other things, included aggregate reductions to Medicare payments to providers, which went into effect beginning on April 1, 2013 and, due to subsequent legislative amendments, will stay in effect through 2032. In January 2013, the

American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

More recently, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and Matthew Bellina Right to Try Act of 2017, or the Right to Try Act, was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase I clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a pharmaceutical manufacturer to make its product candidates available to eligible patients as a result of the Right to Try Act.

Additionally, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. For example, the IRA, among other things, (1) directs HHS to negotiate the price of certain single-source drugs and biologics covered under Medicare and (2) imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation. These provisions will take effect progressively starting in fiscal year 2023, although they may be subject to legal challenges. The IRA permits HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. HHS has and will continue to issue and update guidance as these programs are implemented. It is currently unclear how the IRA will be implemented but it is likely to have a significant effect on the pharmaceutical industry. Further, in response to the Biden administration's October 2022 executive order, on February 14, 2023, HHS released a report outlining three new models for testing by the CMS Innovation Center which will be evaluated on their ability to lower the cost of drugs, promote accessibility, and improve quality of care. It is unclear whether the models will be utilized in any health reform measures in the future. Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

We expect additional state, federal and foreign healthcare reform measures to be adopted in the future, any of which could limit the amounts that federal, state and foreign governments will pay for health products, which could result in reduced demand for our products, if approved or additional pricing pressure.

For instance, in December 2021, the EU Regulation No 2021/2282 on Health Technology Assessment, or HTA, amending Directive 2011/24/EU, was adopted. While the Regulation entered into force in January 2022, it will only begin to apply from January 2025 onwards, with preparatory and implementation-related steps to take place in the interim. Once the Regulation becomes applicable, it will have a phased implementation depending on the concerned products. This regulation is intended to boost cooperation among EU member states in assessing health technologies, including new medicinal products, as well as certain high-risk medical devices, and providing the basis for cooperation at the EU level for joint clinical assessments in these areas. The regulation will permit EU member states to use common HTA tools, methodologies, and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the most potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities, identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU member states will continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technologies, and making decisions on pricing and reimbursement.

The Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act, or FCPA, prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Data Privacy and Security Laws

Numerous state, federal and foreign laws, regulations and standards govern the collection, use, access to, confidentiality and security of health-related and other personal information, and could apply now or in the future to our operations or the operations of our partners. In the United States, numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws and consumer protection laws and regulations govern the collection, use, disclosure, and protection of health-related and other personal information. In addition, certain foreign laws govern the privacy and security of personal data, including health-related data. Privacy and security laws, regulations, and other obligations are constantly evolving, may conflict with each other to complicate compliance efforts, and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing.

Additional Regulation

In addition to the foregoing, state, federal and foreign laws regarding environmental protection and hazardous substances, including the Occupational Safety and Health Act, the Resource Conservancy and Recovery Act and the Toxic Substances Control Act, affect our business. These and other laws govern our use, handling and disposal of various biological, chemical and radioactive substances used in, and wastes generated by, our operations. If our operations result in contamination of the environment or expose individuals to hazardous substances, we could be liable for damages and governmental fines. We believe that we are in material compliance with applicable environmental laws and that continued compliance therewith will not have a material adverse effect on our business. We cannot predict, however, how changes in these laws may affect our future operations.

Foreign Government Regulation

To market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our products.

Whether or not we obtain FDA approval of a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Approval by one regulatory authority does not ensure approval by regulatory authorities in other jurisdictions. The approval process varies from country to country, can involve additional testing beyond that required by FDA, and may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing, promotion, and reimbursement vary greatly from country to country. Failure to comply with applicable foreign regulatory requirements, may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Non-Clinical Studies and Clinical Trials

Similarly to the United States, the various phases of non-clinical and clinical research in the European Union, or EU are subject to significant regulatory controls.

Non-clinical studies are performed to demonstrate the health or environmental safety of new chemical or biological substances. Non-clinical studies must be conducted in compliance with the principles of good laboratory practice, as set forth in EU Directive 2004/10/EC. In particular, non-clinical studies, both in vitro and in vivo, must be planned, performed, monitored, recorded, reported and archived in accordance with the GLP principles, which define a set of rules and criteria for a quality system for the organizational process and the conditions for non-clinical studies. These GLP standards reflect the Organization for Economic Co-operation and Development requirements.

Clinical trials of medicinal products in the EU must be conducted in accordance with EU and national regulations and the International Conference on Harmonization, or ICH, guidelines on GCPs, as well as the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki. If the sponsor of the clinical trial is not established within the EU, it must appoint an EU entity to act as its legal representative. The sponsor must take out a clinical trial insurance policy, and in most EU countries, the sponsor is liable to provide ‘no fault’ compensation to any study subject injured in the clinical trial.

The regulatory landscape related to clinical trials in the EU has been subject to recent changes. The EU Clinical Trials Regulation, or CTR, which was adopted in April 2014 and repeals the EU Clinical Trials Directive, became applicable on January 31, 2022. Unlike directives, the CTR is directly applicable in all EU member states without the need for EU member states to further implement it into national law. The CTR notably harmonizes the assessment and supervision processes for clinical trials throughout the EU via a Clinical Trials Information System, which contains a centralized EU portal and database.

While the Clinical Trials Directive required a separate clinical trial application to be submitted in each EU member state in which the clinical trial takes place, to both the competent national health authority and an independent ethics committee, much like the FDA and IRB respectively, the CTR introduces a centralized process and only requires the submission of a single application for multi-jurisdictional trials. The CTR allows sponsors to make a single submission to both the competent authority and an ethics committee in each EU member state, leading to a single decision per EU member state. The application must include, among other things, a copy of the trial protocol and an investigational medicinal product dossier containing information about the manufacture and quality of the medicinal product under investigation. The assessment procedure of the application has been harmonized as well, including a joint assessment by all EU member states concerned, and a separate assessment by each EU member state with respect to specific requirements related to its own territory, including ethics rules. Each EU member state’s decision is communicated to the sponsor via the centralized EU portal. Once the application is approved, clinical study development may proceed.

The CTR foresees a three-year transition period. The extent to which ongoing and new clinical trials will be governed by the CTR varies. Clinical trials for which an application was submitted (i) prior to January 31, 2022 under the Clinical Trials Directive, or (ii) between January 31, 2022 and January 31, 2023 and for which the sponsor has opted for the application of the Clinical Trials Directive remain governed by said Directive until January 31, 2025 at the latest. After this date, all clinical trials (including those which are ongoing) will become subject to the provisions of the CTR.

Medicinal products used in clinical trials must be manufactured in accordance with Good Manufacturing Practice, or cGMP. Other national and EU-wide regulatory requirements may also apply.

Marketing Authorization

In order to market our future product candidates in the EU and many other foreign jurisdictions, we must obtain separate regulatory approvals. More concretely, in the EU, medicinal product candidates can only be commercialized after obtaining a marketing authorization, or MA. To obtain regulatory approval of a product candidate under EU regulatory systems, we must submit a Marketing Authorization Application, or MAA. The process for doing this depends, among other things, on the nature of the medicinal product. There are two types of MAs:

- "Centralized MAs" are issued by the European Commission through the centralized procedure following an opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the European Medicines Agency, or EMA, and are valid throughout the EU. The centralized procedure is compulsory for certain types of medicinal products such as (i) medicinal products derived from biotechnological processes, (ii) designated orphan medicinal products, (iii) advanced therapy medicinal products, or ATMPs (such as gene therapy, somatic cell therapy and tissue engineered products) and (iv) medicinal products containing a new active substance indicated for the treatment of certain diseases, such as HIV/AIDS, cancer, diabetes, neurodegenerative diseases or autoimmune diseases and other immune dysfunctions, and viral diseases. The centralized procedure is optional for products containing a new active substance not authorized in the EU before May 20, 2004, or that represent a significant therapeutic, scientific or technical innovation, or whose authorization would be in the interest of public health in the EU.
- Where a product has already been authorized for marketing in an EU member state, this national MA can be recognized in another member state through the mutual recognition procedure. If the product has not received a national MA in any member state at the time of application, it can be approved simultaneously in various member states through the decentralized procedure. Under the decentralized procedure an identical dossier is submitted to the competent authorities of each of the member states in which the MA is sought, one of which is selected by the applicant as the reference member state.
- "National MAs" are issued by the competent authorities of individual EU member states, only cover their respective territory, and are available for product candidates not falling within the mandatory scope of the centralized procedure or which are not subject to the decentralized or mutual recognition procedures.

Under the centralized procedure the maximum timeframe for the evaluation of an MAA by the EMA is 210 days, excluding clock stops. In exceptional cases, the CHMP might perform an accelerated review of a MAA in no more than 150 days (not including clock stops). In March 2016, the EMA launched an initiative, the PRIME scheme, a voluntary scheme aimed at enhancing the EMA's support for the development of medicines that target unmet medical needs. It is based on increased interaction and early dialogue with companies developing promising medicines, to optimize their product development plans and speed up their evaluation to help them reach patients earlier. Product developers that benefit from PRIME designation can expect to be eligible for accelerated assessment but this is not guaranteed. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated MAA assessment once a dossier has been submitted. Importantly, a dedicated contact and rapporteur from the CHMP is appointed early in the PRIME scheme facilitating increased understanding of the product at EMA's committee level. An initial meeting initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies.

Moreover, in the EU, a "conditional" MA may be granted in cases where all the required safety and efficacy data are not yet available. The conditional MA is subject to conditions to be fulfilled for generating the missing data or ensuring increased safety measures. It is valid for one year and has to be renewed annually until fulfillment of all the conditions. Once the pending studies are provided, it can become a "standard" MA. However, if the conditions are not fulfilled within the timeframe set by the EMA, the MA ceases to be renewed.

Furthermore, MA may also be granted "under exceptional circumstances" when the applicant can show that it is unable to provide comprehensive data on the efficacy and safety under normal conditions of use even after the product has been authorized and subject to specific procedures being introduced. This may arise in particular when the intended indications are very rare and, in the present state of scientific knowledge, it is not possible to provide comprehensive information, or when generating data may be contrary to generally accepted ethical principles. This MA is close to the conditional MA as it is reserved to medicinal products to be approved for severe diseases or unmet medical needs and the applicant does not hold the complete data set legally required for the grant of a MA. However, unlike the conditional MA, the applicant does not have to provide the missing data and will never have to. Although the MA "under exceptional circumstances" is granted definitively, the risk-benefit balance of the medicinal product is reviewed annually and the MA is withdrawn in case the risk-benefit ratio is no longer favorable.

Additional Requirements Applicable to Human Cells and Tissues-Based Products

Under EU law, cell-based products must also comply with Directive (EC) No. 2004/23 of the European Parliament and of the Council of March 31, 2004 on setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells, or the Tissues and Cells Directive.

This Directive describes the conditions and quality requirements which must be applied when sourcing the cells intended for manufacturing of the cell-based medicinal product. EU directives not being of direct application, these requirements are implemented under national law, in each EU member state, and as such applicable requirements may vary from one EU member state to another, as each is free to implement measures which are more stringent than those set out under the Tissues and Cells Directive.

Amongst other things, the Tissues and Cells Directive requires the following:

- tissue and cell procurement and testing must be conducted by persons appropriately trained and experienced;
- tissue and cells establishments must in particular (i) be accredited, designated, authorized or licensed by the national competent authority, (ii) perform appropriate controls to ensure compliance with applicable requirements, (iii) maintain records of their activities, and (iv) implement a quality system based on good practices principles set out by the European Commission;
- a traceability system must be implemented such that the tissues and cells can be traced from the donor to the recipient, which includes appropriate labelling of said tissues and cells;
- import and export of human tissues and cells must be undertaken by establishments which are duly be accredited, designated, authorized or licensed by the national competent authority, and these tissues and cells must comply with the requirements set out under the Tissues and Cells Directive; and
- a system for the notification of serious adverse events and reactions must be implemented.

On July 14, 2022, the European Commission issued a proposal for a regulation on substances of human origin, or the SoHOs Proposal. Unlike directives, regulations are directly applicable, i.e., without the need for adoption of EU member state laws implementing them, in all EU member states. The SoHOs Proposal aims to repeal, replace, and aggregate the existing regulatory framework applicable to human blood, tissue and cells, consisting of Directive 2002/98/EC on blood and blood components and the Tissue and Cells Directive. Once a final text is adopted, it will come into force although there will be a 2-year transition period before most provisions apply and a 3-year period for some particular provisions.

Data and Marketing Exclusivity

In the EU, new products granted an MA (*i.e.*, reference products) generally receive eight years of data exclusivity and an additional two years of market exclusivity. If granted, the data exclusivity period prevents generic and biosimilar applicants from relying on the preclinical and clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar MA in the EU during a period of eight years from the date on which the reference product was first authorized in the EU. The market exclusivity period prevents a successful generic or biosimilar applicant from commercializing its product in the EU until ten years have elapsed from the initial MA of the reference product in the EU. The overall 10-year market exclusivity period can be extended to a maximum of eleven years if, during the first eight years of those ten years, the MA holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. However, there is no guarantee that a product will be considered by the EU's regulatory authorities to be a new chemical or biological entity, and products may not qualify for data exclusivity.

In the EU, there is a special regime for biosimilars, or biological medicinal products that are similar to a reference medicinal product but that do not meet the definition of a generic medicinal product, for example, because of differences in raw materials or manufacturing processes. For such products, the results of appropriate preclinical or clinical trials must be provided, and guidelines from the EMA detail the type of quantity of supplementary data to be provided for different types of biological product. There are no such guidelines for complex biological products, such as gene or cell therapy medicinal products, and so it is unlikely that biosimilars of those products will currently be approved in the EU. However, guidance from the EMA states that they will be considered in the future in light of the scientific knowledge and regulatory experience gained at the time.

Orphan Medicinal Products

The criteria for designating an "orphan medicinal product" in the EU are similar in principle to those in the United States. A medicinal product can be designated as an orphan if its sponsor can establish that: (1) the product is intended for the diagnosis, prevention or treatment of a life threatening or chronically debilitating condition (2) either (a) such condition affects not more than five in 10,000 persons in the EU when the application is made, or (b) the product, without the benefits derived from the orphan status, would not generate sufficient return in the EU to justify the necessary investment; and (3) there exists no satisfactory method of diagnosis, prevention or treatment of the condition in question that has been authorized for marketing in the EU or, if such method exists, the product will be of significant benefit to those affected by that condition.

Orphan designation must be requested before submitting an MAA. An EU orphan designation entitles a party to incentives such as reduction of fees or fee waivers, protocol assistance, and access to the centralized procedure. Upon grant of a MA, orphan medicinal products are entitled to a ten years of market exclusivity for the approved indication, which means that the competent authorities cannot accept another MAA, or grant a MA, or accept an application to extend a MA for a similar medicinal product for the same indication for a period of ten years. The period of market exclusivity is extended by two years for orphan medicinal products that have also complied with an agreed pediatric investigation plan, or PIP. No extension to any supplementary protection certificate can be granted on the basis of pediatric studies for orphan indications. Orphan designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

The orphan exclusivity period may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for which it received orphan destination, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity or where the prevalence of the condition has increased above the threshold. Additionally, MA may be granted to a similar product for the same indication at any time if (i) the second applicant can establish that its product, although similar, is safer, more effective or otherwise clinically superior; (ii) the applicant consents to a second orphan medicinal product application; or (iii) the applicant cannot supply enough orphan medicinal product.

Pediatric Development

In the EU, MAAs for new medicinal products have to include the results of studies conducted in the pediatric population, in compliance with a PIP agreed with the EMA's Pediatric Committee, or PDCO. The PIP sets out the timing and measures proposed to generate data to support a pediatric indication of the drug for which MA is being sought. The PDCO can grant a deferral of the obligation to implement some or all of the measures of the PIP until there are sufficient data to demonstrate the efficacy and safety of the product in adults. Further, the obligation to provide pediatric clinical trial data can be waived by the PDCO when these data is not needed or appropriate because the product is likely to be ineffective or unsafe in children, the disease or condition for which the product is intended occurs only in adult populations, or when the product does not represent a significant therapeutic benefit over existing treatments for pediatric patients. Once the MA is obtained in all the EU member states and study results are included in the product information, even when negative, the product is eligible for six months' supplementary protection certificate extension (if any is in effect at the time of approval) or, in the case of orphan pharmaceutical products, a two year extension of the orphan market exclusivity is granted.

Post-Approval Requirements

Similar to the United States, both MA holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA, the European Commission and/or the competent regulatory authorities of the EU member states. The holder of a MA must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance, or QPPV, who is responsible for the establishment and maintenance of that system, and oversees the safety profiles of medicinal products and any emerging safety concerns. Key obligations include expedited reporting of suspected serious adverse reactions and submission of periodic safety update reports, or PSURs.

All new MAA must include a risk management plan, or RMP, describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. The regulatory authorities may also impose specific obligations as a condition of the MA. Such risk-minimization measures or post-authorization obligations may include additional safety monitoring, more frequent submission of PSURs, or the conduct of additional clinical trials or post-authorization safety studies.

The advertising and promotion of medicinal products is also subject to laws concerning promotion of medicinal products, interactions with physicians, misleading and comparative advertising and unfair commercial practices. All advertising and promotional activities for the product must be consistent with the approved summary of product characteristics, and therefore all off-label promotion is prohibited. Direct-to-consumer advertising of prescription medicines is also prohibited in the EU. Although general requirements for advertising and promotion of medicinal products are established under EU directives, the details are governed by regulations in each EU member state and can differ from one country to another.

The aforementioned EU rules are generally applicable in the European Economic Area, or EEA, which consists of the 27 EU member states plus Norway, Liechtenstein and Iceland.

Failure to comply with EU and EU member state laws that apply to the conduct of clinical trials, manufacturing approval, MA of medicinal products and marketing of such products, both before and after grant of the MA, manufacturing of pharmaceutical products, statutory health insurance, bribery and anti-corruption or with other applicable regulatory requirements may result in administrative, civil or criminal penalties. These penalties could include delays or refusal to authorize the conduct of clinical trials, or to grant MA, product withdrawals and recalls, product seizures, suspension, withdrawal or variation of the MA, total or partial suspension of production, distribution, manufacturing or clinical trials, operating restrictions, injunctions, suspension of licenses, fines and criminal penalties.

Brexit and the Regulatory Framework in the United Kingdom

Since the end of the Brexit transition period on January 1, 2021, Great Britain, or GB (England, Scotland and Wales) has not been directly subject to EU laws.

The EU laws that have been transposed into UK law through secondary legislation remain applicable in GB. Under the Medicines and Medical Devices Act 2021, the Secretary of State or an 'appropriate authority' has delegated powers to amend or supplement existing regulations in the area of medicinal products and medical devices. This allows new rules to be introduced in the future by way of secondary legislation, which aims to allow flexibility in addressing regulatory gaps and future changes in the fields of human medicines, clinical trials and medical devices. It is currently unclear to what extent the UK Government will seek to align its regulations with the EU.

Under the terms of the Ireland/Northern Ireland Protocol, EU laws still generally apply to Northern Ireland. However, on February 27, 2023 the UK Government and the European Commission reached a political agreement in the "Windsor Framework" to address discrepancies in the Protocol's operation. The Windsor Framework proposes that Northern Ireland will be fully integrated under the regulatory authority of the MHRA; these proposed changes will be introduced by secondary legislation.

The UK regulatory framework in relation to clinical trials is derived from existing EU legislation (as implemented into UK law, through secondary legislation). New EU legislation, such as the (EU) CTR, is not applicable in GB and there may be divergent local requirements in GB from the EU in the future. The MHRA has introduced changes to national licensing procedures, including procedures to prioritize access to new medicines that will benefit patients, including a 150-day assessment and a rolling review procedure. All existing EU MAs for centrally authorized products were automatically converted or grandfathered into UK MAs free of charge on January 1, 2021, unless the MA holder chooses to opt-out. In order to use the centralized procedure to obtain a MA that will be valid throughout the EEA, companies must be established in the EEA. Therefore after Brexit, companies established in the UK can no longer use the EU centralized procedure and instead an EEA entity must hold any centralized MAs. In order to obtain a UK MA to commercialize products in the UK, an applicant must be established in the UK and must follow one of the UK national authorization procedures or one of the remaining post-Brexit international cooperation procedures to obtain an MA to commercialize products in the UK. The MHRA may rely on a decision taken by the European Commission on the approval of a new (centralized procedure) MA when determining an application for a UK authorization; or use the MHRA's decentralized or mutual recognition procedures which enable MAs approved in EU member states (or Iceland, Liechtenstein, Norway) to be granted in the UK.

There will be no pre-MA orphan designation. Instead, the MHRA will review applications for orphan designation in parallel to the corresponding MA application. The criteria are essentially the same, but have been tailored for the market, i.e., the prevalence of the condition in GB, rather than the EU, must not be more than five in 10,000. Should an orphan designation be granted, the period or market exclusivity will be set from the date of first approval of the product in GB.

Rest of World Government Regulation

For other countries outside of Europe, such as some countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, again, the clinical trials must be conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we or our potential collaborators fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Employees and Human Capital Resources

As of March 31, 2023, we employed 108 employees, all of whom are full-time, consisting of clinical, research, operations, regulatory, and finance personnel. Thirty-six of our employees hold Ph.D., M.D. or M.D. equivalent degrees. None of our employees is subject to a collective bargaining agreement. We consider our relationship with our employees to be good.

We recognize that our continued ability to attract, retain and motivate exceptional employees is vital to ensuring our long-term competitive advantage. Our employees are critical to our long-term success and are essential to helping us meet our goals. Among other things, we support and incentivize our employees in the following ways:

- ***Talent development, compensation and retention*** – We strive to provide our employees with a rewarding work environment, including the opportunity for growth, success and professional development. We provide a competitive compensation and benefits package, including broad-based bonus and equity plans, a 401(k) plan and a multi-layered recognition program—all designed to attract and retain a skilled and diverse workforce.
- ***Health and safety*** – We support the health and safety of our employees by providing comprehensive insurance benefits, an employee assistance program, wellness days and other additional benefits which are intended to assist employees to manage their well-being.
- ***Inclusion and diversity*** – We are committed to efforts to increase diversity and foster an inclusive work environment that supports our workforce.

Facilities

We have entered into a lease agreement for 19,474 square feet of space for our headquarters in San Diego, California, which expires in March 2025 with an option to extend up to another three years. We believe that our existing facility is adequate to meet our current needs, and that suitable additional alternative spaces will be available in the future on commercially reasonable terms.

Legal Proceedings

From time to time, we have been or may become involved in material legal proceedings or be subject to claims arising in the ordinary course of our business. We are currently not party to any legal proceedings material to our operations or of which any of our property is the subject, nor are we aware of any such proceedings that are contemplated by a government authority. Regardless of outcome, such proceedings or claims can have an adverse impact on us because of defense and settlement costs, diversion of resources, and other factors, and there can be no assurances that favorable outcomes will be obtained.

MANAGEMENT

Executive Officers and Directors

The following table provides information regarding our executive officers and directors, including their ages, as of May 1, 2023:

Name	Age	Position(s)
Executive Officers		
Sammy Farah, M.B.A., Ph.D.	51	President, Chief Executive Officer and Director
Venkat Ramanan, Ph.D.	54	Chief Financial Officer
Michael Burgess, MBChB, Ph.D.	60	Interim Chief Medical Officer and Director
Stewart Abbot, Ph.D.	56	Chief Scientific Officer
Saryah Azmat	34	Chief Business Officer
Vijay Chiruvolu, Ph.D.	61	Interim Chief Technology Officer
P. Joseph Campisi, Jr.	62	Chief Legal Officer
Non-Employee Directors		
Jerel Davis, Ph.D.	46	Director and Chairman
Robert Gould, Ph.D.	68	Director
Rishi Gupta	45	Director
Stefan Larson, Ph.D.	47	Director
Patrick Machado	59	Director
Santhosh Palani, Ph.D.	40	Director
Kanya Rajangam, Ph.D.	49	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Executive Officers

Sammy Farah, M.B.A., Ph.D. has served as our President and Chief Executive Officer and a member of our board of directors since October 2015. Prior to joining us, Dr. Farah served as President of Synthetic Genomics Vaccines, Inc. from September 2011 to October 2015 and prior to that, as Chief Business Officer at Immune Design Corp. Dr. Farah also served at Versant Ventures, a global healthcare investment firm, where he specialized in biotechnology investing and new company formation. Dr. Farah has an M.B.A. in finance from the Wharton School at the University of Pennsylvania, a Ph.D. in chemical engineering from Stanford University, a M.S. in biotechnology from Northwestern University and a B.S. in biochemical engineering from the Massachusetts Institute of Technology. We believe that Dr. Farah is qualified to serve on our board of directors based on his experience leading, managing, and investing in a number of biotechnology and pharmaceutical companies.

Venkat Ramanan, Ph.D. has served as our Chief Financial Officer since February 2022. Prior to joining us, Dr. Ramanan served in multiple roles at Seagen Inc. (Nasdaq: SGEN), a biotechnology company focused on developing and commercializing monoclonal antibody-based therapies for the treatment of cancer, including as Senior Vice President of Finance from 2019 to February 2022 and as Vice President of Finance from 2016 to 2019. Prior to Seagen, Dr. Ramanan served in various roles at Gilead Sciences (Nasdaq: GILD), including Director of Manufacturing Finance, Director of Finance – Emerging Markets and Director of Corporate Finance. Dr. Ramanan has a Ph.D. and M.S. in engineering mechanics from the Ohio State University and a B.Tech in mechanical engineering from the Indian Institute of Technology.

Michael Burgess, MBChB, Ph.D. has served as a member of our board of directors since June 2021 and as our interim Chief Medical Officer since March 2022. Prior to this, Dr. Burgess served as our President of

Research and Development from October 2017 to May 2021. Dr. Burgess has also served on the board of directors of Synlogic, Inc. (Nasdaq: SYBX) since 2021. Dr. Burgess has served as the Head of Research and Development at Springworks Therapeutics (Nasdaq: SWTX), a biotechnology company engaged in the development of therapies for rare diseases and cancer, since May 2021. Prior to Springworks Therapeutics, Dr. Burgess served in various roles at Bristol-Myers Squibb (NYSE: BMY), a biopharmaceutical company, including as Senior Vice President Cardiovascular, Fibrosis and Immunoscience Development and Senior Vice President Head of Exploratory Clinical and Translation Research from January 2013 to October 2017. Dr. Burgess has an MBChB and a Ph.D. in molecular biology from the University of Bristol. We believe that Dr. Burgess is qualified to serve as our interim Chief Medical Officer and on our board of directors based on his leadership roles at a number of biotechnology and pharmaceutical companies.

Stewart Abbot, Ph.D. has served as our Chief Scientific Officer since June 2021. Prior to joining us, Dr. Abbot served as Chief Scientific Officer and Chief Scientific and Operating Officer at Adicet Bio (Nasdaq: ACET), a biotechnology company engaged in the development of allogeneic immunotherapies, from July 2018 to July 2021. Prior to Adicet Bio, Dr. Abbot served in various roles at Fate Therapeutics (Nasdaq: FATE), a company engaged in the development of cellular immunotherapies, including as Chief Development Officer and Vice President Translational Research from July 2015 to July 2018. Dr. Abbot has a Ph.D. in cell biology and pathology from the University of London, an M.Sc. in biomedical engineering from the University of Strathclyde, and a B.Sc. in biological sciences from the University of Edinburgh.

Saryah Azmat has served as our Chief Business Officer since February 2021. Prior to this, Ms. Azmat served as our Senior Vice President, Business Development and Corporate Strategy from November 2019 to January 2021. Prior to joining us, Ms. Azmat served in various roles at Bristol-Myers Squibb (NYSE: BMY), a biopharmaceutical company, including as Business Development Director, Business Development Manager, Business Development Associate Director, and Business Development Associate from February 2014 to October 2019. Ms. Azmat has a B.A. in engineering sciences and a B.E. in biomedical engineering from Dartmouth College.

Vijay Chiruvolu, Ph.D. has served as our interim Chief Technology Officer since March 2023. Prior to joining us, Dr. Chiruvolo served as the Chief Technical Officer at Instil Bio (Nasdaq: TIL), a clinical-stage cell therapy company, from July 2020 to September 2022. Prior to Instil Bio, Dr. Chiruvolu served as Senior Vice President, Global Process Development-Cell Therapy at Kite Pharma, Inc./Gilead Sciences, a biotechnology company engaged in developing cancer immunotherapy products, from March 2018 to July 2020. Dr. Chiruvolu has a Ph.D. in Engineering (Biochemical) from the University of Nebraska Lincoln and an M.B.A. from Pennsylvania State University.

P. Joseph Campisi, Jr. has served as our Chief Legal Officer since January 2023. Prior to this, Mr. Campisi served as our Senior Vice President and General Counsel from August 2021 to December 2022. Prior to joining us, Mr. Campisi served as Executive Vice President and General Counsel of Scorpion Therapeutics, a biotechnology company engaged in the development of therapeutic solutions for cancer, from March 2020 to July 2021. Mr. Campisi also served as Senior Vice President and Deputy General Counsel of the Transactional Practice Group of Bristol-Myers Squibb (NYSE: BMY) from August 2016 to January 2020, and as Associate General Counsel from July 2003 to August 2016, prior to which he was a partner at the law firm of Pillsbury Winthrop Shaw Pittman LLP. Mr. Campisi holds a J.D. from Hofstra University School of Law, an M.B.A. in finance from St. John's University, and a B.S. in accounting from St. John's University.

Non-Employee Directors

Jerel Davis, Ph.D. has served as a member of our board of directors since October 2015, and as chairman of our board of directors since December 2018. Dr. Davis also serves on the boards of directors of several other biotechnology and pharmaceutical companies, including serving as a member of the board of directors of Graphite Bio, Inc. (Nasdaq: GRPH) since October 2019, as a member of the board of directors of Chinook

Therapeutics (Nasdaq: KDNY) since December 2018, as a member of the board of directors of Repare Therapeutics (Nasdaq: RPTX) since September 2016, as a member of the board of directors of Ventus Therapeutics, Inc. since April 2019, and as a member of the board of Tentarix, Inc. since July 2020. Dr. Davis has served as Managing Director at Versant Ventures, a global healthcare investment firm, since 2015. Dr. Davis has a Ph.D. in population genetics from Stanford University and a B.S. in mathematics and biology from Pepperdine University. We believe that Dr. Davis's broad and extensive experience in the life sciences industry as an investor and launching numerous life sciences companies qualifies him to serve on our board of directors.

Robert Gould, Ph.D. has served as a member of our board of directors since January 2019. Dr. Gould has served as a member of the board of directors of Fulcrum Therapeutics (Nasdaq: FULC), a biopharmaceutical company specializing in genetically defined diseases, since June 2016 and also served as President and Chief Executive Officer of Fulcrum Therapeutics from July 2016 to March 2021. Dr. Gould has completed post-doctoral research in neuropharmacology at The Johns Hopkins University, has a Ph.D. in biochemistry from the University of Iowa, and has a B.S. in chemistry from Spring Arbor University. We believe that Dr. Gould is qualified to serve on our board of directors based on his experience leading and managing a number of biotechnology and pharmaceutical companies.

Rishi Gupta has served as a member of our board of directors since October 2016. Mr. Gupta also serves on the boards of directors of several other biotechnology and pharmaceutical companies, including serving as a member of the board of Verona Pharma PLC (Nasdaq: VRNA) since July 2016 and Enliven Therapeutics (Nasdaq: ELVN) since July 2019. Mr. Gupta has been a Partner at OrbiMed Advisors, a healthcare and biotechnology investment firm since June 2013. Mr. Gupta has a J.D. from the Yale Law School and an A.B. in biochemical sciences from Harvard College. We believe that Mr. Gupta is qualified to serve on our board of directors because of his experience in biotechnology investing and his experience serving on the boards of public and private companies.

Stefan Larson, Ph.D. has served as a member of our board of directors since January 2019. Dr. Larson has served as a Partner at Sectoral Asset Management, a healthcare investment advisor since September 2018. Prior to this, Dr. Larson served as Venture Partner at Versant Ventures, a global healthcare investment firm, from July 2013 to August 2018. Dr. Larson served as Chief Executive Officer at Northern Biologics, a biotechnology company specializing in the development of antibody-based therapeutics, from October 2014 to November 2017. Dr. Larson has served on the board of directors of Prilenia Therapeutics since 2020. Dr. Larson has a Ph.D. in biophysics from Stanford University, an M.Sc. in molecular genetics from the University of Toronto, and a B.Sc. in biology from McGill University. We believe that Dr. Larson is qualified to serve on our board of directors based on his experience leading and managing a number of biotechnology and healthcare investment companies.

Patrick Machado has served as a member of our board of directors since August 2018. Mr. Machado also serves on the boards of directors of several other biotechnology and pharmaceutical companies, including serving as a member of the board of directors of ACELYRIN, INC. (Nasdaq: SLRN) since May 2021, as a member of the board of directors of Chimerix Inc. (Nasdaq: CMRX) since June 2014, as a member of the board of directors of Adverum Biotechnologies (Nasdaq: ADVM) since March 2017, as a member of the board of directors of Xenon Pharmaceuticals (Nasdaq: XENE) since November 2020, as a member of the board of directors of Arcus Biosciences (NYSE: RCUS) since December 2019, and as a member of the board of directors of Therachon from January to July 2019. Mr. Machado also previously served on the board of directors of Inotek Pharmaceuticals Corporation from 2016 to 2018, on the board of directors of Endocyte from 2018 to 2019, on the board of directors of Principia Biopharma (Nasdaq: PRNB) from 2019 to 2020, on the board of directors of Scynexis (Nasdaq: SCYX) from 2015 to 2019, on the board of directors of Roivant Sciences (Nasdaq: ROIV) from 2016 to 2022, and on the board of directors of Turning Point Therapeutics (Nasdaq: TPTX) from 2019 to 2022. Mr. Machado was the co-founder and a board member of Medivation Inc., which has since been acquired by Pfizer, Inc. Mr. Machado has a J.D. from Harvard Law School and a B.A. in German and B.S. in Economics from Santa Clara University. We believe that Mr. Machado is qualified to serve on our board of directors based on his experience leading and managing a number of biotechnology and pharmaceutical companies and his extensive experience dealing with the operational and financial issues of biopharmaceutical companies.

Santhosh Palani, Ph.D. has served as a member of our board of directors since June 2021. Dr. Palani has served as an Investment Partner at PFM Health Sciences, a healthcare investment advisor since June 2020. Prior to this role, Dr. Palani served as Principal, Biotech Venture Capital Investor at New Enterprise Associates, a venture capital firm, from May 2018 to May 2020. Dr. Palani served as Vice President, Equity Research of Cowen and Company, an investment bank and financial services company, from March 2016 to May 2018. Dr. Palani has a Ph.D. in bioengineering from the University of Pennsylvania and completed his postdoctoral work in biochemistry and molecular biophysics at Columbia University. Dr. Palani also holds an M.S. in chemical engineering from Texas A&M University and a B.S. in chemical engineering from the University of Madras. We believe that Dr. Palani is qualified to serve on our board of directors based on his experience investing in biotechnology companies.

Kanya Rajangam, Ph.D. has served as a member of our board of directors since November 2021. Dr. Rajangam has served as Chief Medical Officer of Nkarta Therapeutics (Nasdaq: NKTX), a clinical-stage biotechnology company advancing the development of allogeneic natural killer cell therapies for cancer, since September of 2019, prior to which she was Senior Vice President and Chief Medical Officer of Nkarta Therapeutics from December 2018 to September 2019. Dr. Rajangam also served as Senior Vice President and Chief Medical Officer at Atara Biotherapeutics, Inc. (Nasdaq: ATRA), an allogeneic T cell immunotherapy company, from August 2017 to September 2018, and as Chief Medical Officer at Cleave Biosciences from December 2016 to July 2017. Dr. Rajangam holds a Ph.D. in biomedical engineering from Northwestern University and an M.B.B.S. from St. John's Medical College, Bangalore, India. Dr. Rajangam also completed a general surgical residency at the Postgraduate Institute of Medical Education and Research, Chandigarh, India. We believe that Dr. Rajangam is qualified to serve on our board of directors based on her extensive medical expertise and experience leading and managing a number of biotechnology companies.

Board Composition

Our board of directors currently consists of nine members. All the members of our board of directors were elected under the provisions of our Voting Agreement, which is defined below.

Under the terms of our Voting Agreement, the stockholders who are party to the Voting Agreement have agreed to vote their respective shares to elect: (i) one independent director designated by the holders of a majority of the aggregate voting power of our common stock, currently Robert Gould, (ii) two directors designated by certain affiliates of Versant Management, LLC, currently Dr. Michael Burgess and Dr. Jerel Davis, (iii) one director designated by OrbiMed Private Investments VI, currently Rishi Gupta, (iv) one director designated by New Emerging Medical Opportunities Fund IV SCSp, currently Dr. Stefan Larson, (v) one director who shall be our current Chief Executive Officer, currently Sammy Farah, M.B.A., Ph.D., (vi) one director designated by a majority of the directors elected pursuant to clauses (ii), (iii), (iv), and (vii), currently Patrick Machado, (vii) one director designated by certain affiliates of PFM Health Sciences, LP, or PFM, currently Dr. Santhosh Palani, and (viii) one independent director initially designated by the holders of a majority of the shares of our common stock issued pursuant to the Myst Merger Agreement, who is independent, has experience relevant to our industry and is reasonably acceptable to at least a majority of our board of directors, currently Dr. Kanya Rajangam.

The Voting Agreement will terminate upon the closing of this offering, and thereafter no stockholder will have any special rights regarding the election or designation of the members of our board of directors. Our current directors elected to our board of directors pursuant to the Voting Agreement will continue to serve as directors until their successors are duly elected and qualified by holders of our common stock.

In accordance with the terms of our amended and restated certificate of incorporation, which will be effective immediately following the closing of this offering, and the adoption of our amended and restated bylaws, which will be effective immediately prior to the closing of this offering, our board of directors will be

divided into three classes, Class I, Class II and Class III, with members of each class serving staggered three-year terms. Effective upon the closing of this offering, our board of directors will be divided into the following classes:

- Class I, which will consist of , and , whose terms will expire at the annual meeting of stockholders to be held in 2024;
- Class II, which will consist of , and , whose terms will expire at the annual meeting of stockholders to be held in 2025; and
- Class III, which will consist of , and , whose terms will expire at the annual meeting of stockholders to be held in 2026.

At each annual meeting of stockholders to be held after the initial classification, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following their election and until their successors are duly elected and qualified. The authorized size of our board of directors is currently nine members, and may be changed only by resolution by a majority of the board of directors. We expect that additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. This classification of the board of directors may have the effect of delaying or preventing changes in our control or management. Our directors may be removed for cause by the affirmative vote of the holders of at least 66 2/3% of our voting stock.

Director Independence

Applicable Nasdaq rules require a majority of a listed company's board of directors to be comprised of independent directors within one year of listing. In addition, Nasdaq rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent and that audit committee members also satisfy independence criteria set forth in Rule 10A-3 under the Exchange Act. The Nasdaq independence definition includes a series of objective tests, such as that the director is not, and has not been for at least three years, one of our employees, that neither the director nor any of his family members has engaged in various types of business dealings with us and that the director is not associated with the holders of more than 5% of our common stock. In addition, under applicable Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of the listed company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

Our board of directors has determined that all of our directors, except , are independent directors, as defined under applicable Nasdaq rules. In making such determination, our board of directors considered the relationships that each such non-employee director has with our company and all other facts and circumstances that our board of directors deemed relevant in determining his or her independence, including the beneficial ownership of our capital stock by each non-employee director.

There are no family relationships among any of our directors or executive officers.

Role of the Board in Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through the board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure and our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken

to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The audit committee also monitors compliance with legal and regulatory requirements.

Board Committees

Our board of directors has established an audit committee, compensation committee and a nominating and corporate governance committee, each of which operate pursuant to a committee charter. Our board of directors may establish other committees to facilitate the management of our business. The composition and functions of each committee are described below.

Audit Committee

Upon completion of this offering, our audit committee will consist of , and , with serving as chair of the audit committee. Our board of directors has determined that each of these individuals meets the independence requirements of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, Rule 10A-3 under the Exchange Act, and the applicable listing standards of Nasdaq. Each member of our audit committee can read and understand fundamental financial statements in accordance with Nasdaq audit committee requirements. In arriving at this determination, the board has examined each audit committee member's scope of experience and the nature of their prior and/or current employment.

Our board of directors has determined that qualifies as an audit committee financial expert within the meaning of the SEC regulations and meets the financial sophistication requirements of the applicable listing standards of Nasdaq. In making this determination, our board has considered formal education and previous and current experience in financial and accounting roles. Both our independent registered public accounting firm and management periodically meet privately with our audit committee.

The functions of this committee include, among other things:

- helping our board of directors oversee our corporate accounting and financial reporting processes;
- managing the selection, engagement, qualifications, independence, and performance of a qualified firm to serve as the independent registered public accounting firm to audit our financial statements;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, our interim and year-end operating results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing related person transactions;
- obtaining and reviewing a report by the independent registered public accounting firm, that describes our internal quality control procedures, any material issues with such procedures, and any steps taken to deal with such issues when required by applicable law; and
- approving, or, as permitted, pre-approving, audit and permissible non-audit services to be performed by the independent registered public accounting firm.

We believe that the composition and functioning of our audit committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Compensation Committee

Upon completion of this offering, our compensation committee will consist of , and , with serving as chair of the compensation committee. Each of these individuals is a

"non-employee director", as defined in Rule 16b-3 promulgated under the Exchange Act. Our board of directors has determined that each of these individuals is "independent" as defined under the applicable listing standards of Nasdaq, including the standards specific to members of a compensation committee. The functions of this committee include, among other things:

- reviewing and approving the compensation of our Chief Executive Officer, other executive officers and senior management;
- reviewing and approving the compensation paid to our directors;
- reviewing and approving the compensation arrangements with our executive officers and other senior management;
- administering our equity incentive plans and other benefit programs;
- reviewing, adopting, amending, and terminating the terms of any employment agreements, stock option plans, stock appreciation rights plans, severance arrangements, pension and profit-sharing plans, incentive plans, stock bonus plans, stock purchase plans, bonus plans, deferred compensation plans, change-of-control protections, and any other compensatory arrangements for our executive officers and other senior management;
- reviewing, evaluating and recommending to our board of directors succession plans for our executive officers; and
- reviewing and establishing general policies relating to compensation and benefits of our employees, including our overall compensation philosophy.

We believe that the composition and functioning of our compensation committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Nominating and Corporate Governance Committee

Upon completion of this offering, our nominating and corporate governance committee will consist of , and , with serving as chair of the nominating and corporate governance committee. Our board of directors has determined that each of these individuals is "independent" as defined under the applicable listing standards of Nasdaq and SEC rules and regulations. The functions of this committee include, among other things:

- identifying, reviewing and evaluating candidates to serve on our board of directors;
- considering and making recommendations to our board of directors regarding the composition and chairmanship of the committees of our board of directors;
- instituting plans or programs for the continuing education of our board of directors and orientation of new directors;
- developing and making recommendations to our board of directors regarding corporate governance guidelines and matters; and
- overseeing periodic evaluations of the board of directors' performance, including committees of the board of directors and management.

We believe that the composition and functioning of our nominating and corporate governance committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Our board of directors may from time to time establish other committees.

Compensation Committee Interlocks and Insider Participation

None of our directors who serve as a member of our compensation committee is, or has at any time during the past year been, one of our officers or employees. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee of any other entity that has one or more executive officers serving on our board of directors or compensation committee.

Code of Business Conduct and Ethics

Effective upon the closing of this offering, we will adopt a Code of Business Conduct and Ethics, or the Code of Conduct, applicable to all of our employees, executive officers and directors. This includes our principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions. Following the closing of this offering, the Code of Conduct will be available on our website at www.turnstonebio.com. We intend to disclose on our website any future amendments of our Code of Conduct or waivers that exempt any principal executive officer, principal financial officer, principal accounting officer or controller, persons performing similar functions or our directors from provisions in the Code of Conduct.

Non-Employee Director Compensation

We have previously provided cash and equity-based compensation to certain of our non-employee directors. In addition, all of our non-employee directors are entitled to reimbursement of direct expenses incurred in connection with attending meetings of our board of directors or committees thereof.

The following table sets forth information regarding the compensation our non-employee directors earned for service on our board of directors during the year ended December 31, 2022. Dr. Burgess, our interim Chief Medical Officer, is also a member of our board of directors and was a non-employee director until March 2022 when he was appointed as our interim Chief Medical Officer. Dr. Farah, our President and Chief Executive Officer is also a member of our board of directors but did not receive any additional compensation for his service as a director. The compensation of Dr. Farah is set forth in the section titled “Executive Compensation—Summary Compensation Table for Fiscal Year Ended December 31, 2022.”

Name	Fees Earned or Paid in Cash ($)	Option Awards[4] [5] ($)	All Other Compensation ($)	Total ($)
Jerel Davis, Ph.D., Rishi Gupta, Stefan Larson, Ph.D. and Santhosh Palani, Ph.D.	—	—	—	—
Patrick Machado[1]	30,000	245,836	—	275,836
Kanya Rajangam, Ph.D.[2]	27,500	383,600	—	411,100
Michael Burgess, MBChB, Ph.D.[3]	136,742	280,000	267	417,009
Robert Gould, Ph.D.[1]	—	355,844	—	355,844

(1) The amounts reported in these rows reflect compensation approved by our board of directors.

(2) The amount reported in this column for Dr. Rajangam was paid pursuant to an offer letter we entered into with Dr. Rajangam, as further described below.

(3) The amounts reported in this row for Dr. Burgess were paid pursuant to the offer letters we entered into with him, as further described below. Dr. Burgess served as a non-employee director from June 2021 until his appointment as our interim Chief Medical Officer effective March 2022. During the year ended December 31, 2022, we paid Dr. Burgess an aggregate of $48,333 in cash for his services to us as a non-employee director. After Dr. Burgess was appointed as our interim Chief Medical Officer, he did not receive any additional compensation from us for his services as a director. In addition, during the year ended December 31, 2022, in connection with Dr. Burgess’ employment as our interim Chief Medical Officer, he earned a base salary of $136,742, was granted an option to purchase up to 200,000 shares of our common stock at an exercise price of $1.40 per share, subject to our standard terms and vesting schedule, and we paid $267 in life insurance premiums for his benefit.

(4) The amounts reported in this column reflect the aggregate grant date fair value of the stock options granted to the non-employee director during 2022 under the 2018 Plan, computed in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718 and do not reflect dollar amounts actually received by the non-employee director or the economic value that may be received by the non-employee director upon stock option exercise or any sale of the underlying shares of common stock. The assumptions used in calculating the grant date fair value of the stock options reported in this column are set forth in the notes to our audited consolidated financial statements included elsewhere in this prospectus.

(5) The table below sets forth the aggregate number of shares subject to outstanding stock options, as of December 31, 2022, beneficially owned by each of our non-employee directors for the year ended December 31, 2022.

Name	Number of Shares Underlying Outstanding Options as of December 31, 2022
Jerel Davis, Ph.D., Rishi Gupta, Stefan Larson, Ph.D., Santhosh Palani, Ph.D.	—
Patrick Machado	492,975
Kanya Rajangam, Ph.D.	280,000
Michael Burgess, MBChB, Ph.D.	1,680,693
Robert Gould, Ph.D.	422,550

Narrative to the Employee Director Compensation Table

Kanya Rajangam, Ph.D.

Dr. Rajangam joined our board of directors in November 2021. In October 2021, we entered into an offer letter with Dr. Rajangam pursuant to which we agreed to pay her a cash retainer of $30,000 per year for service on our board of directors payable on a quarterly basis. In addition, pursuant to the offer letter, Dr. Rajangam received an option to purchase up to 280,000 shares of our common stock at an exercise price of $1.37 per share, as compensation for joining our board of directors. The shares subject to the option vest over four years, with 25% of the shares having vested on the first anniversary of the effective date of the offer letter, and the remainder continuing to vest monthly in substantially equal installments over the remaining period, subject to Dr. Rajangam's continuous service on each vesting date.

Michael Burgess, MBChB, Ph.D.

We entered into an offer letter with Dr. Burgess effective March 2022, or the March 2022 Offer Letter, which governs the current terms of his employment. The March 2022 Offer Letter provides that Dr. Burgess will be employed in 12-month terms that automatically renew on March 14 of each year unless either party gives written notice of termination at least 90 days in advance of March 14. Pursuant to the March 22 Offer Letter, Dr. Burgess is entitled to an annual base salary of $475,000 and an incentive bonus of 40% of his annual base salary, based upon the achievement of a combination of personal and company performance goals. Dr. Burgess' incentive bonus for 2022 was prorated. In addition, pursuant to the March 2022 Offer Letter, Dr. Burgess received an option to purchase up to 200,000 shares of our common stock, which vest and become exercisable as follows: (i) 25% of the stock options vest and become exercisable one year following the grant date and (ii) the remaining 75% vest in 36 successive equal monthly installments thereafter, in each case, subject to the holder's continuous service through the applicable vesting date. Dr. Burgess also joined our board of directors in June 2021. In connection with joining our board of directors, we previously entered into an offer letter with Dr. Burgess, or the May 2021 Offer Letter, pursuant to which we agreed to pay him a cash retainer of $50,000 per year for service on our board of directors and as Executive Chairman of Research and Development. However, following the execution of the March 2022 Offer Letter, Dr. Burgess was no longer entitled to compensation for his service on our board of directors. In addition, pursuant to the May 2021 Offer Letter,

Dr. Burgess received an option to purchase (i) up to 697,757 shares of our common stock pursuant to the 2016 Plan, of which 72,683 shares were unvested as of the effective date of the May 2021 Offer Letter, and (ii) up to 782,936 shares of our common stock pursuant to the 2018 Plan, of which 424,091 shares were unvested as of the effective date of the May 2021 Offer Letter. The unvested shares each vest in a series of 48 successive equal monthly installments measure from the effective date of the May 2021 Offer Letter, subject to Dr. Burgess' continuous service on each vesting date.

Pursuant to Dr. Burgess' offer letter, we must provide Dr. Burgess with not less than three months' written advance notice if we wish to terminate him for without "cause" (as defined in the offer letter). However, we have the right to accelerate the termination of his employment, in our sole discretion, so long as we continue to pay Dr. Burgess' during such three-month notice period. Dr. Burgess must also provide us with not less than three months' written advance notice if he wishes to terminate his employment. Dr. Burgess' severance benefits are contingent upon his execution of a separation agreement (including a release of claims against us) and his continued compliance with his nondisclosure, assignment of inventions, and non-competition agreement with us.

2023 Non-Employee Director Compensation Policy

Our board of directors adopted a non-employee director compensation policy in , 2023 that will become effective upon the execution and delivery of the underwriting agreement related to this offering and will be applicable to all of our non-employee directors. This compensation policy provides that each such non-employee director will receive the following compensation for service on our board of directors:

- an annual cash retainer of $;
- an additional annual cash retainer of $, $ and $ for service as a member of the audit committee, compensation committee and the nominating and corporate governance committee, respectively;
- an additional annual cash retainer of $, $ and $ for service as chair of the audit committee, compensation committee and the nominating and corporate governance committee, respectively;
- an initial option grant to purchase shares of our common stock on the date of each such non-employee director's appointment to our board of directors; and
- an annual option grant to purchase shares of our common stock on the date of each of our annual stockholder meetings.

Each of the option grants described above under the non-employee director compensation policy will be granted under our 2023 Equity Incentive Plan, or 2023 Plan, the terms of which are described in more detail below under the section titled "Executive Compensation—Employee Benefit Plans—2023 Equity Incentive Plan." Each such option grant will vest and become exercisable subject to the director's continuous service to us through the earlier of the first anniversary of the date of grant or the next annual stockholder meeting. The term of each option will be ten years, subject to earlier termination as provided in the 2023 Plan.

EXECUTIVE COMPENSATION

Our named executive officers for the year ended December 31, 2022, consisting of our principal executive officer and the next two most highly compensated executive officers who were serving in such capacity as of December 31, 2022, were:

- Sammy Farah, M.B.A., Ph.D., our President and Chief Executive Officer;
- Venkat Ramanan, Ph.D., our Chief Financial Officer; and
- Saryah Azmat, our Chief Business Officer.

Emerging Growth Company Status

We are an "emerging growth company," as defined in the JOBS Act. As an emerging growth company we will be exempt from certain requirements related to executive compensation, including the requirements to hold a nonbinding advisory vote on executive compensation and to provide information relating to the ratio of total compensation of our chief executive officer to the median of the annual total compensation of all of our employees, each as required by the Investor Protection and Securities Reform Act of 2010, which is part of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Summary Compensation Table

The following table presents all of the compensation awarded to or earned by or paid to our named executive officers during the fiscal year ended December 31, 2022.

Name and Principal Position	Fiscal Year	Salary ($)[1]	Stock Awards ($)	Option Awards ($)[2]	Non-Equity Incentive Plan Compensation ($)[3]	All Other Compensation ($)	Total ($)
Sammy Farah, M.B.A., Ph.D. *President, Chief Executive Officer and Director*	2022	501,333	—	2,607,633	163,897	13,282[4]	3,286,145
Venkat Ramanan, Ph.D. *Chief Financial Officer*	2022	345,241	—	1,960,000	—	891[5]	2,306,132
Saryah Azmat *Chief Business Officer*	2022	364,000	—	577,285	114,660	1,069[5]	1,057,014

(1) Each named executive officer's base salary is a fixed component of annual compensation for performing specific duties and functions, and has been established taking into account each individual's roles, responsibilities, skills and expertise. For Dr. Ramanan, the amounts shown represent the pro rata portion of his annual salary earned during 2022 from commencement of his employment as our Chief Financial Officer in February 2022 through December 31, 2022.

(2) In accordance with SEC rules, amounts reported in the column represent the aggregate grant date fair value of the stock options granted to our named executive officers during fiscal year 2022 under our 2018 Plan, computed in accordance with FASB ASC Topic 718. The assumptions used in calculating the grant date fair value of the stock options reported in this column are set forth in the notes to our audited consolidated financial statements included elsewhere in this prospectus. This amount does not reflect the actual economic value that may be realized by the named executive officer. All of the stock awards were granted under the 2018 Plan, the terms of which plan are described in the subsection titled "—Employee Benefit Plans—2018 Equity Incentive Plan."

(3) Amounts shown represent annual performance-based bonuses which are determined based upon the achievement of a combination of personal and company performance. For more information, see the subsection below titled "—Narrative to the Summary Compensation Table—Annual Incentive Compensation."

(4) Represents life insurance premiums for Dr. Farah's benefit, employer contributions to the 401(k) retirement plan, and tax preparation services for Dr. Farah in the amounts of $1,069, $9,150 and $3,063, respectively.

(5) Represents life insurance premiums for the employees' benefit.

Narrative to the Summary Compensation Table

Annual Base Salary

Our named executive officers receive a base salary to compensate them for services rendered to us. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. Dr. Farah's, Dr. Ramanan's and Ms. Azmat's respective annual base salaries were $501,333, $412,000 and $364,000 for the year ended December 31, 2022, respectively. However, the amount paid to Dr. Ramanan for his service during the year ended December 31, 2022 was $345,241, which reflects the pro rata portion of his base salary earned during 2022 from his commencement of employment as our Chief Financial Officer in February 2022 through December 31, 2022.

Annual Incentive Compensation

Our named executive officers are eligible to receive annual incentive compensation based on the satisfaction of individual and corporate performance objectives established by our board of directors. Each named executive officer has a target annual incentive opportunity, calculated as a percentage of their respective annual base salary. For 2022, the target annual incentive opportunities as a percentage of base salary for our named executive officers were 40% for Dr. Farah and 35% for Dr. Ramanan and Ms. Azmat. The amounts of any annual incentives earned are determined after the end of the year, based on the achievement of the designated corporate and individual performance objectives, and may be paid in cash or equity. Based on these metrics, for the year ended December 31, 2022, our board of directors determined that Dr. Farah's and Ms. Azmat's respective annual bonuses were $163,897 and $114,660, respectively, as reflected in the column of the Summary Compensation Table above titled "Non-Equity Incentive Plan Compensation." Dr. Ramanan did not receive a bonus during the year ended December 31, 2022 because he was not employed with us until February 2022, and our annual incentive compensation are determined after the end of the fiscal year.

Equity-Based Incentive Awards

We believe that equity awards provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our stockholders. To date, we have only used stock option grants for this purpose because we believe they are an effective means by which to align the long-term interests of our executive officers with those of our stockholders. The use of stock options also can provide tax and other advantages to our executive officers relative to other forms of equity compensation. We believe that our equity awards are an important retention tool for our executive officers, as well as for our other employees.

We award stock options broadly to our employees, including to our non-executive employees. Grants to our executives and other employees are made at the discretion of our board of directors and are not made at any specific time period during a year.

Prior to this offering, all of the stock options we have granted were made pursuant to either our 2016 Plan or our 2018 Plan. Following this offering, we will grant equity incentive awards under the terms of our 2023 Plan. The terms of our equity plans are described under the section titled "—Employee Benefit Plans" below.

Outstanding Equity Awards as of December 31, 2022

The following table sets forth certain information about outstanding equity awards granted to our named executive officers that remain outstanding as of December 31, 2022.

			Option Awards			
Name	Grant Date	Vesting Commencement Date	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price ($)[7]	Option Expiration Date
Sammy Farah, M.B.A., Ph.D.						
President, Chief Executive Officer and Director	12/08/2015[1]	12/08/2015	918,200	—	0.19	12/08/2025
	12/14/2016[1]	12/14/2016	187,362[3]	—	0.20	12/14/2026
	12/14/2016[1]	12/14/2016	14,878[4]	—	0.20	12/14/2026
	01/30/2017[1]	01/30/2017	616,912[5]	—	0.20	01/30/2027
	01/30/2017[1]	01/30/2017	123,334[6]	—	0.20	01/30/2027
	06/10/2019[2]	06/10/2019	265,808	37,973[8]	1.17	06/10/2029
	06/10/2019[2]	06/10/2019	1,863,352	266,193[9]	1.17	06/10/2029
	01/20/2022[2]	01/20/2022	—	1,903,382[10]	1.37	01/20/2032
Venkat Ramanan, Ph.D.						
Chief Financial Officer	06/30/2022[2]	2/28/2022	—	155,844[11]	1.40	06/30/2032
	06/30/2022[2]	2/28/2022	—	1,244,156[12]	1.40	06/30/2032
Saryah Azmat						
Chief Business Officer	11/01/2019[2]	11/01/2019	263,533	78,347[13]	1.17	11/01/2029
	11/01/2019[2]	11/01/2019	497,375	147,868[14]	1.17	11/01/2029
	01/20/2022[2]	01/20/2022	—	421,376[15]	1.37	01/20/2032

(1) Option award was granted under the 2016 Plan.

(2) Option award was granted under the 2018 Plan.

(3) Represents an incentive stock option, or ISO, award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the December 14, 2016, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

(4) Represents a nonqualified stock option, or NSO, award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the December 14, 2016, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

(5) Represents an ISO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the January 30, 2017, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

(6) Represents a NSO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the January 30, 2017, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date

(7) All of the option awards were granted with a per share exercise price equal to the fair market value of one share of our common stock on the date of grant, as determined by our board of directors.

(8) Represents an ISO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the June 10, 2019, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

(9) Represents a NSO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the June 10, 2019, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

(10) Represents a NSO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the January 20, 2022, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

(11) Represents an ISO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the February 28, 2022, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.
(12) Represents a NSO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the February 28, 2022, vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.
(13) Represents an ISO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the November 1, 2019 vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.
(14) Represents a NSO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the November 1, 2019 vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.
(15) Represents a NSO award which vests over a period of four years with 25% of the shares underlying the option vesting on the one year anniversary of the January 20, 2022 vesting commencement date and 1/48th of the shares underlying the option vesting on a monthly basis thereafter, subject to continued service through each vesting date.

Pension Benefits

Our named executive officers did not participate in, or otherwise receive any benefits under, any pension or retirement plan sponsored by us during the year ended December 31, 2022.

Nonqualified Deferred Compensation

Our named executive officers did not participate in, or earn any benefits under, a non-qualified deferred compensation plan sponsored by us during the year ended December 31, 2022.

Other Compensation and Benefits

All of our executive officers, including our named executive officers, are eligible to participate in our employee benefit plans, including our paid time off, medical, dental, vision, life, disability and accidental death and dismemberment insurance plans, in each case on the same basis as all of our other employees.

401(k) Plan

We are a participating employer in the TriNet 401(k) plan that provides eligible U.S. employees, including our named executive officers, with an opportunity to save for retirement on a tax advantaged basis. TriNet is a professional employer organization, which provides human resources services for us. Eligible employees are able to defer compensation up to certain limits imposed by the Code. We have the ability to make matching and discretionary contributions to the 401(k) plan. The 401(k) plan is intended to be qualified under Section 401(a) of the Code, with the related trust intended to be tax exempt under Section 401(a) of the Code. As a tax-qualified retirement plan, contributions and earnings on deferred amounts are generally not taxable to a participating employee until withdrawn or distributed from the 401(k) plan.

Employment Arrangements

Below are descriptions of employment agreements or offer letters with our named executive officers. For a discussion of the severance pay and other benefits to be provided in connection with a termination of employment and/or a change in control under the arrangements with our executive officers, see the subsection titled "—Potential Payments upon Termination or Change in Control" below.

Sammy Farah, M.B.A., Ph.D. – President, Chief Executive Officer and Director

Turnstone Canada entered into an offer letter with Dr. Farah in August 2015, which governs the current terms of his employment. Dr. Farah's offer letter set forth his initial annual base salary, eligibility to receive an

annual incentive bonus based upon the achievement of certain objectives as determined by our board of directors and certain terms of his initial equity award. Dr. Farah's offer letter also provided for a one-time reimbursement for moving expenses.

Venkat Ramanan, Ph.D. –Chief Financial Officer

We entered into an offer letter with Dr. Ramanan in December 2021, which generally governs the terms of his employment, including his initial annual base salary of $412,000 and eligibility to receive an annual incentive bonus of 35% of his annual base salary, based upon the achievement of a combination of personal and company performance goals. In addition, pursuant to the offer letter, Dr. Ramanan received an option to purchase up to 1,400,000 shares of our common stock, which vest and become exercisable as follows: (i) 25% of the stock options vest and become exercisable one year following the grant date and (ii) the remaining 75% vest in 36 successive equal monthly installments thereafter, in each case, subject to Dr. Ramanan's continuous service through the applicable vesting date. Dr. Ramanan commenced employment with us in February 2022. Dr. Ramanan's offer letter provides for a one-time reimbursement for up to $75,000 of moving expenses.

Saryah Azmat – Chief Business Officer

Turnstone Canada entered into an offer letter with Ms. Azmat in September 2019, which generally governs the terms of her employment. Ms. Azmat's offer letter set forth her initial annual base salary, eligibility to earn an annual incentive bonus based upon the achievement of a combination of personal and company performance goals, and a one-time signing bonus and reimbursement for moving expenses upon hire. Ms. Azmat also received an option to purchase up to 987,123 shares of our common stock, which vest and become exercisable as follows: (i) 25% of the stock options vest and become exercisable one year following the grant date and (ii) the remaining 75% vest in 36 successive equal monthly installments thereafter, in each case, subject to Ms. Azmat's continuous service through the applicable vesting date.

Potential Payments upon Termination or Change in Control

Regardless of the manner in which a named executive officer's service terminates, each named executive officer is entitled to receive amounts earned during his or her term of service, including unpaid salary and unused vacation. In addition, each of our named executive officers' stock awards are subject to the terms of our 2018 Plan and award agreements thereunder. A description of the termination and change in control provisions in the 2018 Plan, and awards granted thereunder is provided below under the section titled "— Employee benefit and stock plans."

Severance Benefits

Drs. Farah and Ramanan are eligible to receive certain severance benefits pursuant to the terms of their offer letters as described below.

Sammy Farah, M.B.A., Ph.D. – President, Chief Executive Officer and Director

Dr. Farah's offer letter provides that if his employment is terminated by Turnstone Canada without "cause" (as defined in the offer letter), he will be entitled to (i) the termination and severance payment required by the Employment Standards Act, 2000, as amended or replaced, or the ESA, (ii) three months of his base salary less the amount paid under (i), and (iii) one month base salary for every completed year of service, provided that the foregoing severance package shall not be more than the greater of (y) six months of his base salary or (z) the termination and severance pay required by the ESA. If Dr. Farah's employment is terminated by Turnstone Canada without "cause" within twelve months of a "sale of the company," he will be entitled to the greater of six months of his base salary or the termination and severance pay required by the ESA. In the event Dr. Farah's employment is terminated by Turnstone Canada without "cause", he will also be entitled to a continuation of

health benefits for the shorter of (i) six months for a termination not within twelve months of a "sale of the company" or twelve months for a termination within twelve months of a "sale of the company", and (ii) until he finds alternate employment. Dr. Farah's severance benefits are contingent upon his execution of a release of claims in a form satisfactory to Turnstone Canada and his continued compliance with the terms of his offer letter (which includes non-solicitation, non-competition, and non-disparagement covenants). In the event Dr. Farah would like to resign, he must provide us with a minimum of sixty days' advance written notice.

Venkat Ramanan, Ph.D. – Chief Financial Officer

Dr. Ramanan's offer letter provides that if his employment is terminated by us without "cause" (as defined in the offer letter), he will be entitled to (i) nine months of his then base salary and (ii) up to nine months of health care continuation coverage. Dr. Ramanan's severance benefits are contingent upon his execution of a separation agreement (including a release of claims against us) and his continued compliance with his nondisclosure, assignment of inventions, and non-competition agreements with us.

Equity Incentive Plans

2023 Equity Incentive Plan

Our board of directors intends to adopt the 2023 Equity Incentive Plan, or the 2023 Plan, that will become effective upon the execution of the underwriting agreement related to this offering. Our 2023 Plan will come into existence upon its adoption by our board of directors, but no grants will be made under our 2023 Plan prior to its effectiveness. Once our 2023 Plan becomes effective, no further grants will be made under the 2018 Plan.

Types of Awards. Our 2023 Plan provides for the grant of incentive stock options, or ISOs, non-qualified stock options, or NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based awards and other awards, or collectively, awards. ISOs may be granted only to our employees, including our officers, and the employees of our affiliates. All other awards may be granted to our employees, including our officers, our non-employee directors and consultants and the employees and consultants of our affiliates.

Authorized Shares. The maximum number of shares of common stock that may be issued under our 2023 Plan is shares, which is the sum of: (i) new shares, plus (ii) up to shares of our common stock subject to awards granted under our 2016 Plan and our 2018 Plan that, after the effective date of our 2023 Plan, expire or otherwise terminate without having been exercised in full or are forfeited to or repurchased by us. The number of shares of common stock reserved for issuance under our 2023 Plan will automatically increase on January 1 of each year, beginning on January 1, 2024 (assuming the 2023 Plan becomes in effective in 2023), and continuing through and including January 1, 2033, by % of the aggregate number of shares of common stock of all classes issued and outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors prior to the applicable January 1. The maximum number of shares that may be issued upon the exercise of ISOs under our 2023 Plan is shares.

Shares issued under our 2023 Plan will be authorized but unissued or reacquired shares of common stock. Shares subject to awards granted under our 2023 Plan that expire or terminate without being exercised in full, or that are paid out in cash rather than in shares, will not reduce the number of shares available for issuance under our 2023 Plan. Additionally, shares issued pursuant to awards under our 2023 Plan that we repurchase or that are forfeited, as well as shares used to pay the exercise price of an award or to satisfy the tax withholding obligations to an award, will become available for future grant under our 2023 Plan.

The maximum number of shares of common stock subject to stock awards granted under the 2023 Plan or otherwise during any calendar year beginning in 2023 to any non-employee director, taken together with any

cash fees paid by us to such non-employee director during such calendar year for service on the board of directors, will not exceed $ in total value (calculating the value of any such stock awards based on the grant date fair value of such stock awards for financial reporting purposes), or, with respect to the calendar year in which a non-employee director is first appointed or elected to our board of directors, $.

Plan Administration. Our board of directors, or a duly authorized committee of our board of directors, may administer our 2023 Plan. Our board of directors has delegated concurrent authority to administer our 2023 Plan to the compensation committee under the terms of the compensation committee's charter. We sometimes refer to our board of directors, or the applicable committee with the power to administer our equity incentive plans, as the administrator. The administrator may also delegate to one or more persons or bodies the authority to (i) designate employees (other than officers) to receive specified awards, and (ii) determine the number of shares subject to such awards. Such persons or bodies may not grant a stock award to themself and neither our board nor any committee may delegate authority to any person or body (who is not a member of our board or such body that is not comprised solely of members of our board) the authority to determine the fair market value of our common stock for purposes of the 2023 Plan.

The administrator has the authority to determine the terms of awards, including recipients, the exercise, purchase or strike price of awards, if any, the number of shares subject to each award, the fair market value of a share of common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise or settlement of the award and the terms of the award agreements for use under our 2023 Plan.

In addition, subject to the terms of the 2023 Plan, the administrator also has the power to modify outstanding awards under our 2023 Plan, including the authority to reprice any outstanding option or stock appreciation right, cancel and re-grant any outstanding option or stock appreciation right in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any materially adversely affected participant.

Stock Options. ISOs and NSOs are granted pursuant to stock option agreements adopted by the administrator. The administrator determines the exercise price for a stock option, within the terms and conditions of the 2023 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2023 Plan vest at the rate specified in the stock option agreement as specified in the stock option agreement by the administrator.

The administrator determines the term of stock options granted under the 2023 Plan, up to a maximum of ten years. Unless the terms of an optionholder's stock option agreement provide otherwise, if an optionholder's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended if either an exercise of the option or an immediate sale of shares acquired upon exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of our affiliates ceases due to disability or death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual for cause. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the administrator and may include (i) cash, check, bank draft or money order, (ii) a broker-assisted cashless exercise, (iii) the tender of shares of common stock previously owned by the optionholder, (iv) a net exercise of the option if it is an NSO and (v) other legal consideration approved by the administrator.

Options may not be transferred to third-party financial institutions for value. Unless the administrator provides otherwise, options generally are not transferable except by will, the laws of descent and distribution or pursuant to a domestic relations order. An optionholder may designate a beneficiary, however, who may exercise the option following the optionholder's death.

Tax Limitations on ISOs. The aggregate fair market value, determined at the time of grant, of common stock with respect to ISOs that are exercisable for the first time by an option holder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will be treated as NSOs. No ISOs may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our parent or subsidiary corporations, unless (i) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant and (ii) the term of the ISO does not exceed five years from the date of grant.

Restricted Stock Awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the administrator. Restricted stock awards may be granted in consideration for cash, check, bank draft or money order, services rendered to us or our affiliates or any other form of legal consideration. Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in our favor in accordance with a vesting schedule to be determined by the administrator. A restricted stock award may be transferred only upon such terms and conditions as set by the administrator. Except as otherwise provided in the applicable award agreement, restricted stock awards that have not vested may be forfeited or repurchased by us upon the participant's cessation of continuous service for any reason.

Restricted Stock Unit Awards. Restricted stock unit awards are granted pursuant to restricted stock unit award agreements adopted by the administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the administrator or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable restricted stock unit award agreement, restricted stock units that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

Stock Appreciation Rights. Stock appreciation rights are granted pursuant to stock appreciation right grant agreements adopted by the administrator. The administrator determines the strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of common stock on the date of grant. Upon the exercise of a stock appreciation right, we will pay the participant an amount equal to the product of (i) the excess of the per share fair market value of common stock on the date of exercise over the strike price, multiplied by (ii) the number of shares of common stock with respect to which the stock appreciation right is exercised. A stock appreciation right granted under the 2023 Plan vests at the rate specified in the stock appreciation right agreement as determined by the administrator.

The administrator determines the term of stock appreciation rights granted under the 2023 Plan, up to a maximum of ten years. Unless the terms of a participant's stock appreciation right agreement provide otherwise, if a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. The stock appreciation right term may be further extended if exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. If a participant's service relationship with us, or any of our affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Performance Awards. Our 2023 Plan permits the grant of performance-based stock and cash awards. The compensation committee can structure such awards so that the stock or cash will be issued or paid pursuant to such award only following the achievement of certain pre-established performance goals during a designated performance period. Performance awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, the common stock.

The performance goals may be based on any measure of performance selected by our board of directors. The compensation committee may establish performance goals on a company-wide basis, with respect to one or more business units, divisions, affiliates or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise (i) in the award agreement at the time the award is granted or (ii) in such other document setting forth the performance goals at the time the goals are established, the compensation committee will appropriately make adjustments in the method of calculating the attainment of the performance goals as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock-based compensation and the award of bonuses under our bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles and (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles.

Other Awards. The administrator may grant other awards based in whole or in part by reference to common stock. The administrator will set the number of shares under the award and all other terms and conditions of such awards.

Changes to Capital Structure. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split or recapitalization, appropriate adjustments will be made to (i) the class and maximum number of shares reserved for issuance under the 2023 Plan; (ii) the class and maximum number of shares by which the share reserve may increase automatically each year; (iii) the class and maximum number of shares that may be issued upon the exercise of ISOs and (iv) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding awards.

Corporate Transactions. The following applies to stock awards under the 2023 Plan in the event of a corporate transaction, unless otherwise provided in a participant's stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the administrator at the time of grant. Under the 2023 Plan, a corporate transaction is generally the consummation of (i) a sale or other disposition of all or substantially all of our assets, (ii) a sale or other disposition of at least 50 percent of our outstanding securities, (iii) a merger, consolidation or similar transaction following which we are not the surviving corporation or (iv) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction.

In the event of a corporate transaction, any stock awards outstanding under the 2023 Plan may be assumed, continued or substituted by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or

substitute such stock awards, then (i) with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the corporate transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full to a date prior to the effective time of the corporate transaction (contingent upon the effectiveness of the corporate transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the corporate transaction), and (ii) any such stock awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the corporate transaction. In addition, the plan administrator may also provide, in its sole discretion, that the holder of a stock award that will terminate upon the occurrence of a corporate transaction if not previously exercised will receive a payment, if any, equal to the excess of the value of the property the participant would have received upon exercise of the stock award over the exercise price otherwise payable in connection with the stock award.

A stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in an applicable award agreement or other written agreement, but in the absence of such provision, no such acceleration will occur.

Transferability. A participant may not transfer awards under our 2023 Plan other than by will, the laws of descent and distribution or as otherwise provided under our 2023 Plan.

Plan Amendment or Termination. Our board of directors has the authority to amend, suspend or terminate our 2023 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. No ISOs may be granted after the tenth anniversary of the date our board of directors adopted our 2023 Plan. No awards may be granted under our 2023 Plan while it is suspended or after it is terminated.

2023 Employee Stock Purchase Plan

Our board of directors intends to adopt the 2023 Employee Stock Purchase Plan, or the ESPP, that will become effective immediately prior to and contingent on the execution date of the underwriting agreement related to this offering. The purpose of our ESPP will be to secure the services of new employees, to retain the services of existing employees, and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. Our ESPP will include two components. One component will be designed to allow eligible U.S. employees to purchase our common stock in a manner that may qualify for favorable tax treatment under Section 423 of the Code. The other component will permit the grant of purchase rights that do not qualify for such favorable tax treatment in order to allow deviations necessary to permit participation by eligible employees who are foreign nationals or employed outside of the United States while complying with applicable foreign laws.

Authorized Shares. The maximum aggregate number of shares of common stock that may be issued under our ESPP is shares. The number of shares of common stock reserved for issuance under our ESPP will automatically increase on January 1 of each calendar year, beginning on January 1, 2024 (assuming the ESPP becomes effective in 2023) and continuing through and including January 1, 2033, by the lesser of (i) % of the aggregate number of shares of common stock of all classes issued and outstanding on December 31 of the preceding calendar year, (ii) shares and (iii) a number of shares determined by our board of directors. Shares subject to purchase rights granted under our ESPP that terminate without having been exercised in full will not reduce the number of shares available for issuance under our ESPP.

Plan Administration. Our board of directors, or a duly authorized committee thereof, will administer our ESPP. The ESPP is implemented through a series of offerings with specific terms approved by the administrator

and under which eligible employees are granted purchase rights to purchase shares of common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and we may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of common stock will be purchased for our eligible employees participating in the offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, with a maximum dollar amount as designated by the board. Unless otherwise determined by the administrator, common stock will be purchased for the accounts of employees participating in the ESPP at a price per share equal to the lower of (i) 85% of the fair market value of a share of common stock on the first date of an offering or (ii) 85% of the fair market value of a share of common stock on the date of purchase.

Limitations. Our employees, including executive officers, or any of our designated affiliates may have to satisfy one or more of the following service requirements before participating in our ESPP, as determined by the administrator: (i) customary employment with us or one of our affiliates for more than 20 hours per week and more than five months per calendar year, or (ii) continuous employment with us or one of our affiliates for a minimum period of time, not to exceed two years, prior to the first date of an offering. An employee may not be granted rights to purchase stock under our ESPP if such employee (1) immediately after the grant would own stock possessing 5% or more of the total combined voting power or value of common stock, or (2) holds rights to purchase stock under our ESPP that would accrue at a rate that exceeds $25,000 worth of our stock for each calendar year that the rights remain outstanding.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or similar transaction, our board of directors will make appropriate adjustments to (i) the number of shares reserved under the ESPP, (ii) the maximum number of shares by which the share reserve may increase automatically each year, (iii) the number of shares and purchase price of all outstanding purchase rights and (iv) the number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of certain corporate transactions, including: (i) a sale of all or substantially all of our assets, (ii) the sale or disposition of 50% of our outstanding securities, (iii) the consummation of a merger or consolidation where we do not survive the transaction, and (iv) the consummation of a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction, any then-outstanding rights to purchase our stock under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of common stock within 10 business days (or such other period specified by our board of directors) prior to such corporate transaction, and such purchase rights will terminate immediately.

Plan Amendment or Termination. The administrator has the authority to amend or terminate our ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to our ESPP as required by applicable law or listing requirements.

2018 Equity Incentive Plan

Our board of directors adopted and our stockholder approved our 2018 Plan in December 2018. As of March 31, 2023, there were 2,154,213 shares of common stock remaining available for the future grant of stock

awards under our 2018 Plan. As of March 31, 2023, options to purchase 19,930,473 shares of common stock were outstanding under the 2018 Plan and no shares of restricted stock were outstanding under the 2018 Plan. On January 21, 2022, the 2018 Plan was amended to increase the shares of common stock reserved for issuance under the 2018 Plan to 23,912,980 shares. No further stock awards will be granted under our 2018 Plan on or after the effectiveness of our 2023 Plan; however, awards outstanding under our 2018 Plan will continue to be governed by their existing terms.

Types of Awards. Our 2018 Plan provides for the grant of ISOs to employees (including officers and directors who are also employees) of our company or any parent or subsidiaries of our company, and for the grant of NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other stock awards to employees, officers, directors, and consultants of our company or any parents or subsidiaries of our company.

Plan Administration. Our board of directors administers and interprets the provisions of the 2018 Plan. The board of directors may delegate its authority to a committee of the board of directors. Under our 2018 Plan, the plan administrator has the authority to, among other things, approve award recipients, determine the numbers and types of stock awards to be granted, determine the applicable fair market value and the provisions of each stock award, including the period of their exercisability and the vesting schedule applicable to a stock award, construe and interpret the 2018 Plan and awards granted thereunder, prescribe, amend, modify, and rescind or terminate rules and regulations for the administration of the 2018 Plan. Under the 2018 Plan, the plan administrator may, with the consent of any adversely affected participant, reduce the exercise, purchase or strike price of any outstanding stock awards, issue new awards in exchange for the surrender and cancellation of any or all outstanding awards and reprice options or stock appreciation rights.

Our board of directors may also delegate to one or more our officers the authority to do one or both of the following (i) designate employees who are not officers to be recipients of options and stock appreciation rights (and, to the extent permitted by applicable law, other stock awards) and, to the extent permitted by applicable law, the terms of such awards, and (ii) determine the number of shares of common stock to be subject to such stock awards granted to such employees; *provided*, *however*, that our board of directors shall set forth resolutions regarding such delegation that will specify the total number of shares of common stock that may be subject to the stock awards granted by such officer and that such officer may not grant a stock award to himself or herself.

Stock Options. Options are granted under stock option agreements in such form and containing such provisions as approved by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2018 Plan, provided that the exercise price of a stock option generally may not be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2018 Plan vest at the rate specified in the stock option agreement and pursuant to the rules as determined by the plan administrator. The plan administrator determines the term of stock options granted under the 2018 Plan, up to a maximum of 10 years. However, any person who owns (or is deemed to own pursuant to Section 424(b) of the Code) stock possessing more than 10% of the total combined voting power of all classes of our stock, will not be granted an ISO unless the exercise price of such Option is at least 110% of the fair market value on the grant date and the option is not exercisable after the expiration of five years from the date of grant. If a holder’s service relationship with us or any of our affiliates ceases for any reason other than disability, death, or cause the holder may generally exercise any vested option for a period of up to 90 days following the cessation of service, or such other period of time set forth in the stock option agreement. If a holder’s service relationship with us or any of our affiliates ceases due to disability, then options vested as of the termination date may generally be exercised within 12 months following the date of termination, or such other period of time set forth in the stock option agreement. If a holder’s service relationship with us or any of our affiliates ceases due to death (or the holder dies within three months after a termination other than for cause), then options vested as of the termination date may generally be exercised within 18 months following the date of termination, or such other period of time set forth in the stock option agreement. In no event may an option be exercised beyond the expiration of its term. If a holder’s service relationship with us or any of our affiliates ceases due to termination

for cause, the holder's vested options will expire on the holder's termination date. The exercise price for shares issued under the 2018 Plan are payable in cash, shares or other forms of consideration as determined by the plan administrator, including but not limited to a broker-assisted cashless exercise or a net exercise. Unless the plan administrator provides otherwise, options generally are not transferable except by will or the laws of descent and distribution.

Restricted Stock Awards. The plan administrator determines to whom an offer of restricted stock will be made, the number of shares the person may purchase, the purchase price, the restrictions to which the shares will be subject and other terms and conditions. If a participant's service relationship with us ends for any reason, we may reacquire any or all of the shares of common stock held by the participant that have not vested as of the date the participant terminates service with us through, but not limited to, a repurchase right.

Changes to Capital Structure. In the event of any merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction affecting shares without consideration, then in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the 2018 Plan the plan administrator will appropriately and proportionately adjust (i) the class(es) and maximum number of securities subject to the 2018 Plan, (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of ISOs and (iii) the class(es) and number of securities and price per share of stock subject to outstanding stock awards.

Transactions. In the event of a corporate transaction or change in control (as defined in the 2018 Plan), unless otherwise provided in the agreement evidencing the transaction, the outstanding awards under the 2018 Plan shall be, contingent upon the closing or completion of the transaction:

- assumed, continued or substituted by the acquiring or succeeding corporation;
- reacquisition or repurchase by the acquiring or succeeding corporation
- terminated to the extent unvested or unexercised upon or immediately prior to the consummation of such transaction contemplated;
- accelerated and become fully or partially exercisable and terminating if not exercised on or prior to the transaction;
- terminated in exchange for consideration, if any, equal to the excess of (A) the value of the property the holder would have received upon the exercise of the stock award immediately prior to the effective time of the transaction, over (B) any exercise price payable by such holder in connection with such exercise; or
- any one or more of the foregoing.

A stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in the award agreement for such stock award or as may be provided in any other written agreement between us and the holder.

Under the 2018 Plan, a transaction is generally defined as the occurrence of any of the following events: (i) a sale or other disposition of all or substantially all of the consolidated assets of our company and our subsidiaries, (ii) a sale or other disposition of more than 50% of the outstanding securities of the company, (iii) a merger, consolidation or similar transaction following which the company is not the surviving corporation, or (iv) a merger, consolidation or similar transaction following which the company is the surviving corporation but the shares of common stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

Plan Amendment or Termination. Our board of directors may terminate, suspend or amend the 2018 Plan at any time and, upon a dissolution or liquidation of our company, all outstanding stock awards (other than stock awards consisting of vested and outstanding shares of common stock not subject to a forfeiture condition or our right of repurchase) will terminate unless our board of directors provides otherwise. Unless sooner terminated, the 2018 Plan terminates in ten years from the effective date.

Amended and Restated Equity Incentive Plan

Our Amended and Restated Equity Incentive Plan, or the 2016 Plan, was adopted by Turnstone Canada in October 2016 and assumed by us in December 2018. The 2016 Plan was suspended upon adoption of our 2018 Equity Incentive Plan, or the 2018 Plan and no further awards were made under the 2016 Plan following such time; however, awards outstanding under the 2016 Plan continue in full effect in accordance with their existing terms.

Plan Administration. Our board of directors has the sole and complete authority and discretion to take any actions it deems necessary or advisable for the administration of our 2016 Plan. Our board of directors has the authority to delegate the 2016 Plan's administration to a committee of our board of directors. Our board of directors may cancel, amend adjust or otherwise change any award as the board of directors may consider appropriate under the 2016 Plan.

Types of Awards. Our 2016 Plan provided for the grant of or ISOs, NSOs, as well as restricted stock and restricted stock units. As of March 31, 2023, only options were outstanding under the 2016 Plan.

Stock Options. The exercise price of options granted under our 2016 Plan was determined by the board of directors on the date of grant. Options expire at the time determined by our board of directors, but was in no event more than ten years after they were granted, and generally expire earlier if the optionholder's service terminates.

Changes in Capitalization. If we at any time change the number of shares of common stock issued without new consideration (such as by stock dividend or stock split), the total number of shares of common stock reserved for issuance under the 2016 Plan and the exercise price and number of shares of common stock covered by each then-outstanding award will (to the extent appropriate) be proportionally adjusted in order to preserve the rights and obligations of the optionholders.

Other Events Affecting the Company. In the event of an amalgamation, arrangement, combination, merger or other reorganization involving our company by exchange of the common stock or by sale or lease of assets that, in the opinion of our board of directors, warrants the replacement or amendment of any existing awards, the board of directors will authorize such steps to be taken as may be equitable an appropriate to that end.

Transferability. Subject to applicable law, a participant may not transfer options under our 2016 Plan except as permitted by our board of directors.

Plan Amendment or Termination. Our board of directors has the authority to amend or terminate our 2016 Plan at any time without stockholder approval.

Limitations on Liability and Indemnification Matters

Immediately following the closing of this offering, our amended and restated certificate of incorporation will contain provisions that limit the liability of our current and former directors for monetary damages to the fullest extent permitted by Delaware law. Delaware law provides that directors of a corporation will not be personally liable for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director's duty of loyalty to the corporation or its stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which the director derived an improper personal benefit.

This limitation of liability does not apply to liabilities arising under federal securities laws and does not affect the availability of equitable remedies such as injunctive relief or rescission.

Our amended and restated certificate of incorporation to be in effect immediately following the closing of this offering will provide that we are authorized to indemnify our directors and officers to the fullest extent permitted by Delaware law. Our amended and restated bylaws to be in effect immediately prior to the closing of this offering will provide that we are required to indemnify our directors and executive officers to the fullest extent permitted by Delaware law. Our amended and restated bylaws will also provide that, upon satisfaction of certain conditions, we are required to advance expenses incurred by a director or executive officer in advance of the final disposition of any action or proceeding, and permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law. Our amended and restated bylaws will also provide our board of directors with discretion to indemnify our other officers and employees when determined appropriate by our board of directors. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our board of directors. With certain exceptions, these agreements provide for indemnification for related expenses, including, among other things, attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these provisions and agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain customary directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation, to be in effect immediately following the closing of this offering, and amended and restated bylaws, to be in effect immediately prior to the closing of this offering, may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions. At present, there is no pending litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

Rule 10b5-1 Sales Plans

Our directors and executive officers may adopt written plans, known as Rule 10b5-1 plans, in which they will contract with a broker to buy or sell shares of our common stock on a periodic basis. Under a Rule 10b5-1 plan, a broker executes trades pursuant to parameters established by the director or executive officer when entering into the plan, without further direction from them. The director or executive officer may amend a Rule 10b5-1 plan in some circumstances and may terminate a Rule 10b5-1 plan at any time. Our directors and executive officers also may buy or sell additional shares outside of a Rule 10b5-1 plan when they are not in possession of material nonpublic information subject to compliance with the terms of our insider trading policy and any applicable 10b5-1 guidelines. Prior to 180 days after the date of this offering, subject to early termination, the sale of any shares under such Rule 10b5-1 plan would be subject to the lock-up agreement that the director or executive officer has entered into with the underwriters in connection with this offering.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a summary of transactions since January 1, 2020 and any currently proposed transactions to which we have been a participant in which the amount involved exceeded or will exceed the lesser of $120,000 or 1% of the average of our total assets as of December 31, 2021 and 2022, and in which any of our then directors, executive officers or holders of more than 5% of any class of our capital stock at the time of such transaction, or any members of their immediate family, had or will have a direct or indirect material interest, other than compensation arrangements which are described in the sections titled “Executive Compensation” and “Management—Non-Employee Director Compensation.”

Series D Preferred Stock Financing

In June 2021, we entered into a preferred stock purchase agreement with certain investors, including beneficial owners of greater than 5% of our capital stock and affiliates of members of our board of directors, pursuant to which we issued and sold to such investors an aggregate of 29,285,356 shares of our Series D preferred stock at a purchase price of $2.73174 per share for aggregate gross proceeds of approximately $80.0 million.

The table below sets forth the aggregate number of shares of Series D preferred stock issued and sold to holders of more than 5% of our capital stock and entities affiliated with certain of our directors in connection with the issuance of our Series D preferred stock:

Name	Series D Preferred Stock Purchased (#)	Aggregate Purchase Price ($)
Entities affiliated with Versant Management, LLC(1)	2,196,402	$ 5,999,999.20
OrbiMed Private Investments VI, LP(2)	1,830,335	$ 4,999,999.34
New Emerging Medical Opportunities Fund IV SCSp(3)	732,134	$ 1,999,999.74
Entities affiliated with PFM Health Sciences, LP(4)	4,392,804	$ 11,999,998.41
F-Prime Capital Partners Healthcare Fund V LP(5)	732,134	$ 1,999,999.74

(1) Jerel Davis, a member of our board of directors, is a managing director at Versant Management, LLC.
(2) Rishi Gupta, a member of our board of directors, is a director at OrbiMed OrbiMed Advisors LLC, an entity affiliated with Orbimed.
(3) Stefan Larson, a member of our board of directors, is a partner at New Emerging Medical Opportunities Fund IV SCSp.
(4) Santhosh Palani, a member of our board of directors, is a partner at PFM Health Sciences, LP.
(5) Entities affiliated with F-Prime Capital hold more than 5% of our capital stock.

Investors’ Rights Agreement

In June 2021, in connection with the issuance and sale of our Series D preferred stock, we entered the Rights Agreement, with, among others, certain holders of more than 5% of our outstanding capital stock, including entities affiliated with Versant Management, LLC, OrbiMed Private Investments VI, LP, F-Prime Capital Partners Healthcare Fund V LP, and FACIT Inc., or FACIT, and including certain affiliates of our directors. New Emerging Medical Opportunities Fund IV SCSp and Entities affiliated with PFM, which each has a director on our board of directors, were also parties to the Rights Agreement.

The Rights Agreement grants certain rights to the holders of our outstanding convertible preferred stock, including certain registration rights with respect to the registrable securities held by them. See section titled “Description of Capital Stock—Registration Rights” for additional information.

In addition, the Rights Agreement imposes certain affirmative obligations on us, including our obligation to, among other things, grant each investor who holds shares of our convertible preferred stock a right of first offer

with respect to future sales of our equity, excluding the shares to be offered and sold in this offering, and grant certain information and inspection rights to such Investors. Each of these obligations will terminate in connection with the closing of this offering.

Voting Agreement

In June 2021, in connection with the issuance and sale of our Series D preferred stock, we entered into a Second Amended and Restated Voting Agreement, or the Voting Agreement, with, among others, certain holders of more than 5% of our outstanding capital stock, including entities affiliated with Versant Management, LLC, OrbiMed Private Investments VI, LP, F-Prime Capital Partners Healthcare Fund V LP, and FACIT Inc. New Emerging Medical Opportunities Fund IV SCSp and Entities affiliated with PFM, which each has a director on our board of directors, were also parties to the Voting Agreement.

Pursuant to the Voting Agreement, certain affiliates of Versant Management, LLC have the right to designate two members to be elected to our board of directors, while each of OrbiMed Private Investments VI, LP and New Emerging Medical Opportunities Fund IV SCSp has the right to designate one member. See “Management—Board Composition.” The Voting Agreement will terminate by its terms in connection with the closing of this offering and none of our stockholders will have any continuing rights regarding the election or designation of members of our board of directors following this offering.

Right of First Refusal and Co-Sale Agreement

In June 2021, in connection with the issuance and sale of our Series D preferred stock, we entered into a Second Amended and Restated Right of First Refusal and Co-Sale Agreement, or the Co-Sale Agreement, with, among others, certain holders of more than 5% of our outstanding capital stock, including entities affiliated with Versant Management, LLC, OrbiMed Private Investments VI, LP, F-Prime Capital Partners Healthcare Fund V LP, and FACIT Inc. New Emerging Medical Opportunities Fund IV SCSp and Entities affiliated with PFM Health Sciences, LP, which each has a director on our board of directors, were also parties to the Co-Sale Agreement.

Pursuant to the Co-Sale Agreement, we have a right of first refusal in respect of certain sales of securities by certain holders of our common stock and convertible preferred stock, including holders of more than 5% of our outstanding capital stock. To the extent we do not exercise such right in full, certain holders of our capital stock are entitled to certain rights of first refusal and co-sale in respect of such sale. The Co-Sale Agreement will terminate in connection with the closing of this offering.

Management Rights Letters

In connection with the issuance and sale of our Series D preferred stock, we entered into management rights letters with certain purchasers of our convertible preferred stock, including holders of more than 5% of our capital stock and entities with which certain of our directors are affiliated, pursuant to which such entities were granted certain management rights, including the right to consult with and advise our management on significant business issues, review our operating plans, examine our books and records and inspect our facilities. These management rights letters will terminate upon completion of this offering.

Public Offering Participation Rights

In connection with the issuance and sale of our Series D preferred stock, in June 2021, we entered into a letter agreement with certain entities including PFM, an affiliate of Santhosh Palani, a member of our board of directors. The letter agreement grants PFM a participation right to purchase a specified percentage of shares of our common stock in this offering at the public offering price, subject to compliance with applicable securities laws, as well as the right to purchase a specified percentage of any of our securities offered or sold in a private

placement contemporaneous or conditioned on this offering (except as described below) at the price offered to other investors in such placement. The letter agreement further provides that, under certain circumstances in which PFM is unable to participate in this offering, we are required to offer PFM shares of our common stock through a separate private placement to be concurrent with this offering.

Employment Arrangements

We have entered into employment agreements and offer letters with certain of our executive officers. For more information regarding these agreements with our executive officers, see "Executive Compensation—Employment Arrangements."

Equity Grants

We have granted options to purchase shares of our common stock to certain of our executive officers and directors. For more information regarding the options granted to our executive officers and directors, see the sections titled "Executive Compensation" and "Management—Non-Employee Director Compensation."

Indemnification Agreements

We have entered into indemnification agreements with certain of our current directors and executive officers and we plan to enter into indemnification agreements with each of our directors and executive officers in connection with this offering. The indemnification agreements, to be in effect upon the closing of this offering, and our amended and restated bylaws, to be in effect immediately prior to the closing of this offering, require us to indemnify our directors and executive officers to the fullest extent permitted by Delaware law. For more information regarding these agreements, see "Executive Compensation—Limitations on Liability and Indemnification Matters."

Related Person Transaction Policy

Prior to this offering, we did not had a formal policy regarding approval of transactions with related parties. In connection with this offering, we have adopted a written related person transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related person transactions. The policy will become effective immediately upon the execution of the underwriting agreement for this offering. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were or will be participants and in which the amount involved exceeds the lesser of $120,000 or 1% of the average of our total assets at year end for the last two completed fiscal years. Transactions involving compensation for services provided to us as an employee or director are not covered by this policy. A related person is any executive officer, director or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons.

All of the transactions described above were entered into prior to the adoption of the written related person transaction policy, but all were approved by our board of directors considering similar factors to those described above.

PRINCIPAL STOCKHOLDERS

The following table sets forth information regarding beneficial ownership of our common stock as of March 31, 2023 by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock;
- each of our directors;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

We have determined beneficial ownership in accordance with the rules of the SEC. Under these rules, beneficial ownership includes any shares of common stock as to which the individual or entity has sole or shared voting power or investment power. Applicable percentage ownership before the offering is based on 123,977,816 shares of common stock outstanding as of March 31, 2023, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of common stock.

Applicable percentage ownership after the offering is based on shares of common stock outstanding as of March 31, 2023, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 99,791,338 shares of common stock.

In computing the number of shares beneficially owned by an individual or entity and the percentage ownership of that person, shares of common stock subject to options held by such person that are currently exercisable or will become exercisable within 60 days of March 31, 2023 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person.

Unless noted otherwise, the address of all listed stockholders is c/o 9310 Athena Circle Suite 300, La Jolla, California 92037.

Each of the stockholders listed has sole voting and investment power with respect to the shares beneficially owned by the stockholder unless noted otherwise, subject to community property laws where applicable.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
Greater than 5% stockholders			
Entities affiliated with Versant Ventures[1]	25,213,198	17.3%	
OrbiMed Private Investments VI, LP [2]	21,426,472	14.7%	
Entities affiliated with F-Prime Capital[3]	9,057,402	6.2%	
FACIT Inc.[4]	8,152,039	5.6%	
Directors and Named Executive Officers			
Sammy Farah, M.B.A., Ph.D.[5]	4,877,778	3.3%	
Michael Burgess, MBChB, Ph.D.[6]	1,232,305	*	
Jerel Davis, Ph.D.[1]	25,213,198	17.3%	
Robert Gould, Ph.D.[7]	249,390	*	
Rishi Gupta[2]	21,426,472	14.7%	
Stefan Larson, Ph.D.[8]	4,134,565	2.8%	
Patrick Machado[9]	307,405	*	
Santhosh Palani[10]	4,392,804	3.0%	
Kanya Rajangam, Ph.D. [11]	105,000	*	
Venkat Ramanan, Ph.D.[12]	437,499	*	
Saryah Azmat[13].	1,004,190	*	
All current executive officers and directors as a group (14 persons)[14]	64,433,520	44.1%	

* Represents beneficial ownership of less than 1%.

(1) Consists of (i) 7,897,999 shares of common stock issuable upon conversion of our Series A convertible preferred stock, 3,530,789 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock, 7,650,043 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock and 1,119,729 shares of common stock issuable upon conversion of our Series C convertible preferred stock, in each case held by Versant Venture Capital V, L.P., or Versant V, (ii) 601,077 shares of common stock issuable upon conversion of our Series A convertible preferred stock, 268,711 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock, 582,206 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock and 85,217 shares of common stock issuable upon conversion of our Series C convertible preferred stock, in each case held by Versant Venture Capital V (Canada) LP, or Versant V Canada, (iii) 263,349 shares of common stock issuable upon conversion of our Series A convertible preferred stock, 117,730 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock, 255,081 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock and 37,283 shares of common stock issuable upon conversion of our Series C convertible preferred stock, in each case held by Versant Ophthalmic Affiliates Fund I, L.P., or Versant Ophthalmic, (iv) 237,575 shares of common stock issuable upon conversion of our Series A convertible preferred stock, 106,208 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock, 230,117 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock and 33,682 shares of common stock issuable upon conversion of our Series C convertible preferred stock, in each case held by Versant Affiliates Fund V, L.P., or Versant Affiliates V and (v) 2,196,402 shares of common stock issuable upon conversion of our Series D convertible preferred stock held by Versant Vantage II, L.P. or Versant Vantage II. Versant V, Versant V Canada, Versant Ophthalmic, Versant Affiliates V and Versant Vantage II are collectively referred to as the Versant Entities. Versant Ventures V, LLC is the general partner of each of Versant V, Versant Ophthalmic and Versant Affiliates V and has voting and dispositive control over the shares held by such entities. Versant Ventures V (Canada), L.P. is the general partner of Versant V Canada and Versant Ventures V GP-GP (Canada), Inc. is the sole general partner of Versant Ventures V (Canada), L.P. and has voting and dispositive control over the shares held by Versant V Canada. Dr. Jerel Davis, Brad Bolzon, Dr. Woiwode, William Link, Samuel Colella, Kirk Nielsen and Robin Praeger, the managing directors of Versant Ventures V, LLC and the directors of Versant Ventures V GP-GP (Canada), Inc., may be deemed to possess voting and dispositive control over the shares held by Versant V, Versant V Canada, Versant Ophthalmic and Versant Affiliates V and may be deemed to have indirect beneficial ownership of the shares held by Versant V, Versant V Canada, Versant Ophthalmic and Versant Affiliates V but disclaim beneficial ownership of such securities, except to the extent of their respective pecuniary interest therein, if any. Versant Vantage II GP, L.P. is the sole general partner of Versant Vantage II and Versant Vantage II GP-GP, LLC is the sole general partner of Versant Vantage II GP, L.P. and has voting and dispositive control over the shares held by Versant Vantage II. Each of Bradley J. Bolzon, Jerel C. Davis, Ph.D., Alexander Mayweg, Clare Ozawa, Robin L. Praeger, and Thomas Woiwode Ph.D., are the managing directors of Versant Vantage II GP-GP, LLC, may be deemed to possess voting and dispositive control over the shares held by Versant Vantage II and may be deemed to have indirect beneficial ownership of the shares held by Versant Vantage II but disclaims beneficial ownership of such securities, except to the extent of their respective pecuniary interest therein, if any. Dr. Jerel Davis is a member of our board of directors. The address for each of the Versant Entities and individuals is One Sansome Street, Suite 1650, San Francisco, California 94104.

(2) Consists of (a) 7,486,979 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock, (b) 9,982,639 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock, (c) 2,126,519 shares of common stock issuable upon conversion of our Series C convertible preferred stock, and (d) 1,830,335 shares of common stock issuable upon conversion of our Series D convertible preferred stock, in each case held by OrbiMed Private Investments VI, LP, or OPI VI. OrbiMed Capital GP VI LLC, or GP VI, is the general partner of OPI VI. OrbiMed Advisors LLC, or OrbiMed Advisors, is the managing member of GP VI. By virtue of such relationships, GP VI and OrbiMed Advisors may be deemed to have voting and investment power with respect to the shares held by OPI VI and as a result may be deemed to have beneficial ownership of such shares. OrbiMed Advisors exercises investment and voting power through a management committee composed of Carl L. Gordon, Sven H. Borho, and W. Carter Neild. Mr. Gupta, a member of our board of directors, is a director of OrbiMed Advisors. Each of GP VI and OrbiMed Advisors disclaims beneficial ownership of the shares held by OPI VI. The address of each of GP VI, OPI VI, OrbiMed Advisors, and Mr. Gupta is c/o OrbiMed Advisors LLC, 601 Lexington Avenue, 54th Floor, New York, New York 10022.

(3) Consists of (i) 3,863,281 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock held by F-Prime Capital Partners Healthcare Fund V LP, or F-Prime, (ii) 1,204,549 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock held by F-Prime, (iii) 850,607 shares of common stock issuable upon conversion of our Series C convertible preferred stock held by F-Prime, (iv) and 732,134 shares of common stock issuable upon conversion of our Series D convertible preferred stock held by F-Prime, (v) 2,367,375

shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock held by Impresa Fund III Limited Partnership and (vi) 39,456 shares of common stock issuable upon conversion of our Series B-2 convertible preferred stock held by F-Prime Capital Partners Healthcare Advisors Fund V LP. F-Prime Capital Partners Healthcare Advisors Fund V LP is the general partner of F-Prime. F-Prime Capital Partners Healthcare Advisors Fund V LP is solely managed by Impresa Management LLC, the managing member of its general partner and its investment manager. Impresa Fund III Limited Partnership is solely managed by Impresa Management LLC, its general partner and its investment manager. Impresa Management LLC is owned, directly or indirectly, by various shareholders and employees of FMR LLC. Each of the entities listed above expressly disclaims beneficial ownership of such securities, except to the extent of their respective pecuniary interest therein, if any. The business address of these entities is 245 Summer Street, Boston, Massachusetts 02210.

(4) Consists of 3,350,000 shares of common stock, 2,250,000 shares of common stock issuable upon conversion of our Series A convertible preferred stock, 911,458 shares of common stock issuable upon conversion of our Series B-1 convertible preferred stock, 1,215,278 shares of common stock issuable upon conversion of our Series B-2 and 425,303 shares of common stock issuable upon conversion of our Series C convertible preferred stock, in each case held by FACIT Inc., or FACIT. FACIT is the investment fund of the Ontario Institute for Cancer Research and the Ontario Institute for Cancer Research may be deemed to have indirect beneficial ownership of the shares held by FACIT but disclaims beneficial ownership of such securities, except to the extent of their respective pecuniary interest therein, if any. The business address of FACIT is MaRS Centre 661 University Ave., Suite 510, Toronto, Ontario, Canada M5G 0A3.

(5) Consists of 4,877,778 shares of common stock underlying options to purchase common stock held by Dr. Farah that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(6) Consists of 1,232,305shares of common stock underlying options to purchase common stock held by Dr. Burgess that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(7) Consists of 249,390shares of common stock underlying options to purchase common stock held by Dr. Gould that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(8) Consists of 3,402,431 shares of common stock issuable upon conversion of our Series C convertible preferred stock and 732,134 shares of common stock issuable upon conversion of our Series D convertible preferred stock, in each case held by New Emerging Medical Opportunities Fund IV SCSp, NEMO IV. Sectoral Asset Management Inc., or Sectoral, is the manager of NEMO IV and may be deemed to have indirect beneficial ownership of the shares held by NEMO IV but disclaims beneficial ownership of such securities, except to the extent of their respective pecuniary interest therein, if any. Dr. Stefan Larson, a member of our board of directors, is a partner of Sectoral. The business address of each of NEMO IV, Sectoral and Dr. Larson is Sectoral Asset Management, 1010 Sherbrooke St. West, Suite 1610, Montreal, Quebec, Canada H3A 2R7.

(9) Consists of 307,405shares of common stock underlying options to purchase common stock held by Mr. Machado that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(10) Consists of (i) 3,001,750 shares of common stock issuable upon conversion of our series D convertible preferred stock held by PFM Healthcare Master Fund, L.P., (ii) 292,853 shares of common stock issuable upon conversion of our series D convertible preferred stock held by Partner Investments, L.P., and (iii) 1,098,201 shares of common stock issuable upon conversion of shares of our series D convertible preferred stock beneficially owned by PFM Healthcare Growth Equity Holdings I, LLC. PFM Health Sciences, LP is the investment advisor of PFM Healthcare Master Fund, L.P., Partner Investments, L.P., and PFM Healthcare Growth Equity Holdings I, LLC (collectively, the PFM Funds) and by virtue of those relationships may be deemed to have voting power and investment power over the securities held by the PFM Funds and as a result may be deemed to have beneficial ownership of such securities. Dr. Santhosh Palani, a member of our board of directors, is an investment partner at PFM Health Sciences, LP, and may be deemed to have indirect beneficial ownership of the shares held by PFM Funds, but disclaims beneficial ownership of such securities, except to the extent of their respective pecuniary interest therein, if any. The business address for Dr. Palani and the PFM Funds is 4 Embarcadero Center, Suite 3500, San Francisco, California 94111.

(11) Consists of 105,000 shares of common stock underlying options to purchase common stock held by Ms. Rajangam that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(12) Consists of 437,499 shares of common stock underlying options to purchase common stock held by Dr. Ramanan that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(13) Consists of 1,004,190 shares of common stock underlying options to purchase common stock held by Ms. Azmat that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

(14) Consists of 9,266,481 shares of common stock underlying options to purchase common stock held by all current executive officers and directors as a group that are currently exercisable or would be exercisable within 60 days of March 31, 2023.

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws, each of which will become effective upon the closing of this offering. Copies of these documents have been filed with the SEC as exhibits to our registration statement, of which this prospectus forms a part. The descriptions of the common stock and preferred stock reflect changes to our capital structure that will be in effect on the closing of this offering.

Upon filing of our amended and restated certificate of incorporation and the closing of this offering, our authorized capital stock will consist of shares of common stock, par value $0.0001 per share, and shares of preferred stock, par value $0.0001 per share. All of our authorized shares of preferred stock will be undesignated.

As of March 31, 2023, we had 123,977,816 shares of common stock outstanding, held of record by 72 stockholders, assuming the conversion of all outstanding shares of our convertible preferred stock into 99,791,338 shares of common stock upon the closing of this offering.

Common Stock

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders. The affirmative vote of holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of capital stock, voting as a single class, will be required to amend certain provisions of our amended and restated certificate of incorporation, including provisions relating to amending our amended and restated bylaws, the classified board, the size of our board, removal of directors, director liability, vacancies on our board, special meetings, stockholder notices, actions by written consent and exclusive jurisdiction.

Dividends

Subject to preferences that may apply to any outstanding convertible preferred stock, holders of our common stock are entitled to receive ratably any dividends that our board of directors may declare out of funds legally available for that purpose on a non-cumulative basis.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of convertible preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our convertible preferred stock that we may designate and issue in the future.

Preferred Stock

Upon the closing of this offering, all outstanding shares of convertible preferred stock will convert into shares of our common stock on a one-to-one basis. As of March 31, 2023, we had 99,791,338 shares of

convertible preferred stock outstanding, held of record by 33 stockholders. Immediately after the completion of this offering, our certificate of incorporation will be amended and restated to delete all references to such shares of convertible preferred stock. Under the amended and restated certificate of incorporation, our board of directors will have the authority, without further action by the stockholders, to issue up to shares of convertible preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our board of directors may authorize the issuance of convertible preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of convertible preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. We have no current plans to issue any shares of convertible preferred stock.

Stock Options

As of March 31, 2023, 19,930,473 shares of common stock were issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of $1.11 per share. For additional information regarding terms of our equity incentive plans, see the section titled “Executive Compensation—Equity Incentive Plans.”

Registration Rights

Upon the completion of this offering, certain holders of shares of our common stock, including certain of those shares of our common stock that will be issued in connection with this offering upon the conversion of our convertible preferred stock, will initially be entitled to certain rights with respect to registration of such shares under the Securities Act. These shares are referred to as registrable securities. The registration of shares of our common stock pursuant to the exercise of the registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

Myst Merger Agreement

Pursuant to the Myst Merger Agreement, we have agreed to use commercially reasonable efforts to (i) cause a registration statement covering the sale on a continuous basis of the shares of our common stock to be declared effective as soon as reasonably practicable after filing such registration statement or (ii) register the resale of such shares of our common stock under an existing registration statement without amendment. As of March 31, 2023, 6,043,467 shares of our common stock have been issued pursuant to the Myst Merger Agreement. Langer has waived his registration rights in connection with this offering.

Investors’ Rights Agreement

In June 2021, in connection with the issuance and sale of our Series D preferred stock, we entered into the Rights Agreement. The Rights Agreement grants certain rights to the holders of our outstanding convertible preferred stock, including certain registration rights with respect to the registrable securities held by them. The holders of these registrable securities possess registration rights pursuant to the terms of the Rights Agreement and are described in additional detail below. However, the necessary percentage of holders waived, their rights to notice of this offering and to include their shares of registrable securities in this offering.

As of the completion of this offering, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into 99,791,338 shares of our common stock in connection with the completion of the offering, there would have been an aggregate of 99,791,338 shares of common stock that are entitled to these demand, piggyback and Form S-3 registration rights pursuant to the Rights Agreement. We will pay the

registration expenses, other than the underwriting discounts and selling commissions, of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares the holders may include. The demand, piggyback and Form S-3 registration rights described below will expire no later than five years after the completion of this offering, or with respect to any particular holder, at such time that such holder can sell its shares under Rule 144 of the Securities Act during any three-month period.

Demand Registration Rights

After this offering, the holders of an aggregate of 99,791,338 shares of our common stock will be entitled to certain demand registration rights pursuant to the Rights Agreement. At any time beginning 180 days after the completion of this offering, the holders of a majority of the registrable securities then outstanding may request that we register all or a portion of their shares. Such request for registration must cover at least 25% of the registrable securities then outstanding.

Piggyback Registration Rights

In connection with this offering, the holders of an aggregate of 99,791,338 shares of our common stock were entitled to certain piggyback registration rights pursuant to the Rights Agreement, After this offering, in the event that we propose to register any of our securities under the Securities Act, either for our own account or for the account of other security holders, the holders of registrable securities will be entitled to certain piggyback registration rights allowing the holder to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to: (i) a demand registration; (ii) the registration of securities relating to the sale or grant of securities to employees to a stock option, stock purchase, equity incentive or similar plan; (iii) the registration of securities relating to a SEC Rule 145 transaction; (iii) the registration of securities on any form that does not include substantially the same information as would be required on a Form S-1 or Form S-3; or (iv) the registration of common stock that is being registered that is issuable upon conversion of debt securities that are also being registered, then holders of these shares are entitled to notice of the registration and have the right to include their shares in the registration, subject to limitations that the underwriters may impose on the number of shares included in the offering.

S-3 Registration Rights

After this offering, the holders of an aggregate of 99,791,338 shares of our common stock will be entitled to certain Form S-3 registration rights pursuant to the Rights Agreement. Such holders of registrable securities can make a request that we register their shares on Form S-3 if we are qualified to file a registration statement on Form S-3 and such holders hold registrable securities in an anticipated aggregate offering amount of at least $1.0 million, net of applicable selling expenses. We will not be required to effect a registration on Form S-3 within 90 days of a registration initiated by us, to effect more than two registrations on Form S-3 within any 12-month period or to effect any registration that our board of directors deems in good faith to be materially detrimental to our company and our stockholders.

Anti-Takeover Provisions of Delaware Law and Our Charter Documents

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;

- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation or any direct or indirect majority-owned subsidiary of the corporation and the interested stockholder;
- any sale, lease, exchange, mortgage, pledge, transfer or other disposition of 10% or more of the assets of the corporation or of any direct or indirect majority-owned subsidiary involving the interested stockholder (in one transaction or a series of transactions);
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation or by any direct or indirect majority-owned subsidiary of the corporation of any stock of the corporation or of such subsidiary to the interested stockholder;
- any transaction involving the corporation or any direct or indirect majority-owned subsidiary of the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation or any such subsidiary beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation or any direct or indirect majority-owned subsidiary.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws will:

- permit our board of directors to issue up to shares of convertible preferred stock, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change in control;
- provide that the authorized number of directors may be changed only by resolution of our board of directors;
- provide that our board of directors will be classified into three classes of directors;
- provide that, subject to the rights of any series of convertible preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least sixty-six and two-thirds percent (66 2/3%) of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;

- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of our stockholders may be called only by the chairman of our board of directors, our chief executive officer or president or by our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

The amendment of any of these provisions would require approval by the holders of at least 66 2/3% of the voting power of all of our then-outstanding common stock entitled to vote generally in the election of directors, voting together as a single class.

The combination of these provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Because our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated convertible preferred stock makes it possible for our board of directors to issue convertible preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the state of Delaware will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine.

The provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by

different courts, among other considerations, our amended and restated certificate of incorporation will also provide that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act, including all causes of action asserted against any defendant named in such complaint. For the avoidance of doubt, this provision is intended to benefit and may be enforced by us, our officers and directors, the underwriters to any offering giving rise to such complaint, and any other professional entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering.

While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our amended and restated certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

These exclusive forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers and other employees. If a court were to find either exclusive-forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving the dispute in other jurisdictions, all of which could seriously harm our business.

Our amended and restated certificate of incorporation will further provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, subject to and contingent upon a final adjudication in the State of Delaware of the enforceability of such exclusive forum provision.

Limitation on Liability and Indemnification Matters

See the section titled "Executive Compensation— Limitations on Liability and Indemnification Matters."

Listing

We intend to apply to list our common stock on the Nasdaq Global Market under the trading symbol "TSBX."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, no public market existed for our common stock. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares outstanding as of March 31, 2023 and assuming the conversion of all outstanding shares of our convertible preferred stock into 99,791,338 shares of our common stock upon the closing of this offering and assuming no exercise of the underwriters' option to purchase additional shares, shares of common stock will be outstanding. All of the shares of common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act, except for any shares sold to our "affiliates," as that term is defined under Rule 144 under the Securities Act. The remaining shares of common stock held by existing stockholders are "restricted securities," as that term is defined in Rule 144 under the Securities Act. Restricted securities may be sold in the public market only if registered or if their resale qualifies for exemption from registration described below under Rule 144 promulgated under the Securities Act or another available exemption.

As a result of the lock-up agreements described below and the provisions of Rules 144 and 701 under the Securities Act, the shares of common stock that will be deemed restricted securities after this offering will be available for sale in the public market as follows:

- none of the existing restricted shares will be eligible for immediate sale upon the completion of this offering; and
- restricted shares will be eligible for sale in the public market upon expiration of lock-up agreements 180 days after the date of this prospectus, subject in certain circumstances to the volume, manner of sale and other limitations under Rule 144 and Rule 701 under the Securities Act, which are summarized below.

Rule 144

In general, non-affiliate persons who have beneficially owned restricted shares of our common stock for at least six months, and any affiliate of the company who owns either restricted or unrestricted shares of our common stock, are entitled to sell their securities without registration with the SEC under an exemption from registration provided by Rule 144 under the Securities Act.

Non-Affiliates

Any person who is not deemed to have been one of our affiliates at the time of, or at any time during the three months preceding, a sale may sell an unlimited number of restricted securities under Rule 144 if:

- the restricted securities have been held for at least six months, including the holding period of any prior owner other than one of our affiliates (subject to certain exceptions);
- we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale; and
- we are current in our Exchange Act reporting at the time of sale.

Any person who is not deemed to have been an affiliate of ours at the time of, or at any time during the three months preceding, a sale and has held the restricted securities for at least one year, including the holding period

of any prior owner other than one of our affiliates, will be entitled to sell an unlimited number of restricted securities without regard to the length of time we have been subject to Exchange Act periodic reporting or whether we are current in our Exchange Act reporting. Non-affiliate resales are not subject to the manner of sale, volume limitation or notice filing provisions of Rule 144.

Affiliates

Persons seeking to sell restricted securities who are our affiliates at the time of, or any time during the three months preceding, a sale, would be subject to the restrictions described above. They are also subject to additional restrictions, by which such person would be required to comply with the manner of sale and notice provisions of Rule 144 and would be entitled to sell within any three-month period only that number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after the completion of this offering; or
- the average weekly trading volume of our common stock on the stock exchange on which our shares are listed during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Additionally, persons who are our affiliates at the time of, or any time during the three months preceding, a sale may sell unrestricted securities under the requirements of Rule 144 described above, without regard to the six-month holding period of Rule 144, which does not apply to sales of unrestricted securities.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and in the section titled “Underwriting” and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

Form S-8 Registration Statements

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock subject to outstanding stock options and common stock issued or issuable under our 2023 Plan, ESPP, 2018 Plan and 2016 Plan. We expect to file the registration statement covering shares offered pursuant to our stock plans as soon as practicable after the closing of this offering, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market, subject to compliance with the resale provisions of Rule 144 and expiration or release from the terms of the lock-up agreements described below and in the section titled “Underwriting”.

Lock-up Arrangements

We, our executive officers and directors and the holders of substantially all of our outstanding shares of common stock and securities exercisable for or convertible into our common stock have entered into lock-up agreements with the underwriters or otherwise agreed, subject to certain exceptions, that we and they will not, directly or indirectly, offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale, or otherwise dispose of or hedge any of our shares of common stock, any options or warrants to purchase shares of our common stock, or any securities convertible into, shares of our common stock, without the prior written consent of the representatives for a period of 180 days from the date of this prospectus.

Registration Rights

Upon the closing of this offering, the holders of 105,834,805 shares of our common stock, including Langer and certain holders of common stock issuable upon the conversion of our convertible preferred stock, or their transferees, will be entitled to specified rights with respect to the registration of their registrable shares under the Securities Act, subject to certain limitations and the expiration, waiver or termination of the lock-up agreements. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act immediately upon effectiveness of the registration. See the section titled “Description of Capital Stock—Registration Rights” for additional information.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following is a general discussion of the material U.S. federal income tax considerations of the acquisition, ownership and disposition of our common stock by "Non-U.S. Holders" (as defined below). This discussion is for general information purposes only and does not consider all aspects of U.S. federal income taxation that may be relevant to particular Non-U.S. Holders in light of their individual circumstances or to certain types of Non-U.S. Holders subject to special tax rules, including partnerships or other pass-through entities for U.S. federal income tax purposes (or investors therein), banks, financial institutions or other financial services entities, broker-dealers, insurance companies, tax-exempt organizations, pension plans, real estate investment trusts, controlled foreign corporations, passive foreign investment companies, corporations that accumulate earnings to avoid U.S. federal income tax, persons who use or are required to use mark-to-market accounting, persons that hold our shares as part of a "straddle," a "hedge", a "conversion transaction," "synthetic security", integrated investment or other risk reduction strategy, persons that have a "functional currency" other than the U.S. dollar, certain former citizens or permanent residents of the United States, persons who hold or receive shares of our common stock pursuant to the exercise of an employee stock option or otherwise as compensation, and persons that own or are deemed to own (directly, indirectly or constructively) more than 5% of our common stock (except to the extent specifically set forth below). In addition, this discussion does not address the effects of any applicable gift or estate tax, the potential application of the alternative minimum tax, the Medicare contribution tax on net investment income, the base erosion and anti-abuse tax, special tax accounting rules under Section 451(b) of the Code, or any tax considerations that may apply to Non-U.S. Holders of our common stock under state, local or non-U.S. tax laws.

This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, and applicable Treasury Regulations promulgated thereunder and rulings, administrative pronouncements and judicial decisions that are issued and available as of the date of this registration statement, all of which are subject to change or differing interpretations at any time with possible retroactive effect. We have not sought, and will not seek, any ruling from the Internal Revenue Service, or the IRS, with respect to the tax consequences discussed herein, and there can be no assurance that the IRS or a court will not take a position contrary to the tax consequences discussed below or that any position taken by the IRS would not be sustained. This discussion is limited to a Non-U.S. Holder who will hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). For purposes of this discussion, the term "Non-U.S. Holder" means a beneficial owner of our common stock that is not a partnership (or entity or arrangement treated as a partnership for U.S. federal income tax purposes) and is not, for U.S. federal income tax purposes, treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation) created or organized in the United States or under the laws of the United States or of any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust if (i) a court within the United States can exercise primary supervision over the trust's administration and one or more U.S. persons (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all of the trust's substantial decisions or (ii) the trust has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person for U.S. federal income tax purposes.

If a partnership (or entity or arrangement treated as a partnership for U.S. federal income tax purposes) is a beneficial owner of our common stock, the tax treatment of such partnership and a partner in such partnership generally will depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding our shares, you should consult your tax advisor regarding the tax consequences of the purchase, ownership, and disposition of our A common stock.

THIS SUMMARY IS NOT INTENDED TO BE TAX ADVICE. PROSPECTIVE INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE PARTICULAR U.S. FEDERAL INCOME TAX CONSEQUENCES TO THEM OF ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR NON-U.S. TAX LAWS, ANY OTHER U.S. FEDERAL TAX LAWS OR ANY APPLICABLE INCOME TAX TREATY.

Distributions on Our Common Stock

As described in the section titled "Dividend Policy," we have never declared or paid, and do not anticipate declaring or paying, in the foreseeable future, any cash dividends on our capital stock. In general, however, subject to the discussions below regarding effectively connected income and under the headings "Information Reporting and Backup Withholding" and "Foreign Accounts," distributions, if any, paid on our common stock to a Non-U.S. Holder (to the extent paid out of our current or accumulated earnings and profits, as determined under U.S. federal income tax principles) will constitute dividends and be subject to U.S. withholding tax at a rate equal to 30% of the gross amount of the dividend, or a lower rate prescribed by an applicable income tax treaty. Any distribution not constituting a dividend (because such distribution exceeds our current and accumulated earnings and profits) will be treated first as reducing the Non-U.S. Holder's adjusted tax basis in its shares of our common stock, but not below zero, and to the extent it exceeds the Non-U.S. Holder's adjusted tax basis, as capital gain from the sale or exchange of such shares of Common Stock (see "Gain on Sale, Exchange or Other Taxable Disposition of Our Common Stock" below).

A Non-U.S. Holder who claims the benefit of an applicable income tax treaty generally will be required to satisfy certain certification and other requirements prior to the distribution date. Such Non-U.S. Holders generally must provide us and/or our paying agent, as applicable, with a properly executed IRS Form W-8BEN or IRS Form W-8BEN-E (or other appropriate form) claiming an exemption from or reduction in withholding under an applicable income tax treaty. Such certificate must be provided before the payment of dividends and must be updated periodically. If a Non-U.S. Holder holds common stock through a financial institution or other agent acting on the Non-U.S. Holder's behalf, the Non-U.S. Holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through intermediaries. If tax is withheld in an amount in excess of the amount applicable under an income tax treaty, a refund of the excess amount generally may be obtained by a Non-U.S. Holder by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under an applicable income tax treaty.

Dividends that are effectively connected with a Non-U.S. Holder's conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, attributable to a U.S. permanent establishment or U.S. fixed base of the Non-U.S. Holder) generally will not be subject to U.S. federal withholding tax if a properly executed IRS Form W-8ECI, stating that the dividends are so connected, is furnished to us (or, if stock is held through a financial institution or other agent, to such agent). In general, such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to U.S. residents. A corporate Non-U.S. Holder receiving effectively connected dividends may also be subject to an additional "branch profits tax," which is imposed, under certain circumstances, at a rate of 30% (or such lower rate as may be specified by an applicable income tax treaty) on the corporate Non-U.S. Holder's effectively connected dividends, subject to certain adjustments. Non-U.S. Holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

Gain on Sale, Exchange or Other Taxable Disposition of Our Common Stock

Subject to the discussion below under the headings "Information Reporting and Backup Withholding" and "Foreign Accounts," a Non-U.S. Holder generally will not be subject to U.S. federal income tax or withholding tax on any gain realized upon such holder's sale, exchange or other disposition of shares of our common stock unless:

(1) the gain is effectively connected with a trade or business carried on by the Non-U.S. Holder within the United States (and, if required by an applicable income tax treaty, attributable to a U.S. permanent establishment or U.S. fixed base of the Non-U.S. Holder);

(2) the Non-U.S. Holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of disposition and certain other conditions are met; or

(3) we are or have been a "United States real property holding corporation" for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of disposition or the period that the Non-U.S. Holder held the common stock, and, in the case where shares of our common stock are regularly traded on an established securities market, the Non-U.S. Holder owns or is treated as owning (directly, indirectly or constructively) more than 5% of our common stock at any time during the foregoing period.

Net gain realized by a Non-U.S. Holder described in clause (1) above generally will be subject to U.S. federal income tax in the same manner as if the Non-U.S. Holder were a resident of the United States. Any gains of a corporate Non-U.S. Holder described in clause (1) above may also be subject to an additional "branch profits tax" at a 30% rate, or such lower rate as may be specified by an applicable income tax treaty, on such effectively connected gain, as adjusted for certain items.

Gain realized by an individual Non-U.S. Holder described in clause (2) above will be subject to a flat 30% tax, or such lower rate specified in an applicable income tax treaty, which gain may be offset by U.S. source capital losses, even though the individual is not considered a resident of the United States, provided that the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

For purposes of clause (3) above, a corporation is a United States real property holding corporation, or USRPHC, if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its United States real property interests, the fair market value of its worldwide real property interests, and its other assets used or held for use in a trade or business. We believe that we are not, and we do not anticipate that we will become, a USRPHC. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property interests relative to the fair market value of our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we were or became a USRPHC, a Non-U.S. Holder would not be subject to U.S. federal income tax on a sale, exchange or other taxable disposition of our common stock by reason of our status as a USRPHC so long as our common stock is regularly traded on an established securities market (within the meaning of the applicable regulations) and such Non-U.S. Holder does not own and is not deemed to own (directly, indirectly or constructively) more than 5% of our outstanding common stock at any time during the shorter of the five-year period ending on the date of disposition and such holder's holding period. However, no assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above. If we are a USRPHC and either our common stock is not regularly traded on an established securities market or a Non-U.S. Holder holds or is deemed to hold (directly, indirectly or constructively) more than 5% of our outstanding common stock during the applicable testing period, such Non-U.S. Holder will generally be taxed on any gain in the same manner as gain that is effectively connected with the conduct of a U.S. trade or business, except that the branch profits tax generally will not apply.

If we are a USRPHC and our common stock is not regularly traded on an established securities market, a Non-U.S. Holder's proceeds received on the disposition of shares will also generally be subject to withholding at a rate of 15%. Prospective investors are encouraged to consult their own tax advisors regarding the possible consequences to them if we are, or were to become, a USRPHC.

Information Reporting and Backup Withholding

Generally, we must report annually to the IRS and to each Non-U.S. Holder the amount of dividends paid, the name and address of the recipient, and the amount, if any, of tax withheld. These information reporting requirements apply even if withholding was not required because the dividends were effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States or withholding was reduced by an

applicable income tax treaty. Under applicable income tax treaties or other agreements, the IRS may make its reports available to the tax authorities in the Non-U.S. Holder's country of residence or country in which the Non-U.S. Holder was established.

Dividends paid to a Non-U.S. Holder that is not an exempt recipient generally will be subject to backup withholding, currently at a rate of 24%, unless the applicable withholding agent does not have actual knowledge or reason to know the holder is a United States person and the Non-U.S. Holder certifies to the payor as to its foreign status, which certification may generally be made on an applicable IRS Form W-8, or the Non-U.S. Holder otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any distributions on our common stock paid to the Non-U.S. Holder, regardless of whether such distributions constitute dividends or whether any tax was actually withheld.

Proceeds from the sale or other disposition of common stock by a Non-U.S. Holder effected by or through a U.S. office of a broker will generally be subject to information reporting and backup withholding, currently at a rate of 24%, unless the Non-U.S. Holder provides a properly executed IRS Form W-8BEN, IRS Form W-8BEN-E or other documentary evidence required for establishing non-U.S. person status and the applicable withholding agent does not have actual knowledge or reason to know that such holder is a United States person or the Non-U.S. Holder otherwise establishes an exemption. Payment of disposition proceeds effected outside the United States by or through a non-U.S. office of a non-U.S. broker generally will not be subject to information reporting or backup withholding if the payment is not received in the United States. Information reporting, but generally not backup withholding, will apply to such a payment if the broker has certain connections with the United States unless the broker has documentary evidence in its records that the beneficial owner thereof is a Non-U.S. Holder and specified conditions are met or an exemption is otherwise established.

Backup withholding is not an additional tax. Any amount withheld under the backup withholding rules from a payment to a Non-U.S. Holder that results in an overpayment of taxes generally will be refunded, or credited against the holder's U.S. federal income tax liability, if any, provided that the required information is timely furnished to the IRS.

Foreign Accounts

Sections 1471 through 1474 of the Code (commonly referred to as the Foreign Account Tax Compliance Act, or FATCA) impose a U.S. federal withholding tax of 30% on certain payments to a foreign financial institution (as specifically defined by applicable rules) unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and annually provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity holders of such institution, as well as certain account holders that are foreign entities with U.S. owners). FATCA also generally imposes a federal withholding tax of 30% on certain payments, including dividends paid on, and (subject to the proposed Treasury Regulations discussed below) the gross proceeds of a disposition of, our common stock to a non-financial foreign entity unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides identifying information regarding each substantial direct and indirect U.S. owner of the entity. An intergovernmental agreement between the United States and an applicable foreign country may modify those requirements. The withholding tax described above will not apply if the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from the rules.

The withholding provisions described above currently apply to payments of dividends. The U.S. Treasury Department has released proposed regulations which, if finalized in their present form, would eliminate the federal withholding tax of 30% that otherwise would apply to the gross proceeds of a disposition of our common stock. In its preamble to such proposed regulations, the U.S. Treasury Department stated that taxpayers may generally rely on the proposed regulations until final regulations are issued.

UNDERWRITING

BofA Securities, Inc., SVB Securities LLC and Piper Sandler & Co., or the Representatives, are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the Representatives, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
BofA Securities, Inc.	
SVB Securities LLC	
Piper Sandler & Co.	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The Representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discount	$	$	$
Proceeds, before expenses, to us	$	$	$

The expenses of the offering, not including the underwriting discount, are estimated at $ and are payable by us. We have also agreed to reimburse the underwriters for certain of their expenses in an amount up to $.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares at the public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 180 days after the date of this prospectus without first obtaining the written consent of the Representatives. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly

- offer, pledge, sell or contract to sell any common stock,
- sell any option or contract to purchase any common stock,
- purchase any option or contract to sell any common stock,
- grant any option, right or warrant for the sale of any common stock,
- lend or otherwise dispose of or transfer any common stock,
- request or demand that we file or make a confidential submission of a registration statement related to the common stock, or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Nasdaq Global Market Listing

We expect the shares to be approved for listing on Nasdaq, subject to notice of issuance, under the symbol "TSBX."

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the Representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are:

- the valuation multiples of publicly traded companies that the Representatives believe to be comparable to us,
- our financial information,
- the history of, and the prospects for, our company and the industry in which we compete,
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues,
- the present state of our development, and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the Representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. “Naked” short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the Representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on Nasdaq, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the Representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

European Economic Area

In relation to each Member State of the European Economic Area, each a Relevant State, no shares have been offered or will be offered pursuant to the global offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the global coordinator for any such offer; or

c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation, provided that no such offer of shares shall require the Issuer or any Manager to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with our company and the Managers that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

The above selling restriction is in addition to any other selling restrictions set out below.

In connection with the offering, BofA Securities, Inc., SVB Securities LLC and Piper Sandler & Co. are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

Notice to Prospective Investors in the United Kingdom

In relation to the United Kingdom, or the UK, no shares have been offered or will be offered pursuant to the global offering to the public in the UK prior to the publication of a prospectus in relation to the shares which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the FSMA, except that offers of shares may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

a. to any legal entity which is a qualified investor as defined under the UK Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of the global coordinator for any such offer; or

c. at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of shares shall require the issuer or any manager to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the company and the Managers that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any shares in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018, and the expression “FSMA” means the Financial Services and Markets Act 2000.

In connection with the offering, the Representatives are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, or as amended, the Financial Promotion Order, (ii) are persons falling within Article 49(2)(a) to (d) (“high net worth companies, unincorporated associations etc.”) of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended, or FSMA), in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as “relevant persons”). This document is directed only at relevant persons and must not be acted

on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an exempt offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with exempt offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time, or the SFA, pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(b) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA; where no consideration is or will be given for the transfer; where the transfer is by operation of law; or as specified in Section 276(7) of the SFA.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Cooley LLP, New York, New York. Certain legal matters will be passed upon for the underwriters by Latham & Watkins LLP. As of the date of this prospectus, GC&H Investments, LLC, an entity comprised of partners and associates of Cooley LLP, beneficially owns 225,562 shares of common stock issuable upon the conversion of our convertible preferred stock.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements at December 31, 2022 and 2021, and for each of the two years in the period ended December 31, 2022, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements). We've included our financial statements in the prospectus and elsewhere in the registration statement in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the shares of common stock being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to our company and the common stock offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the internet at the SEC's website at www.sec.gov. Upon completion of this offering, we will be subject to the information reporting requirements of the Exchange Act, and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available at the website of the SEC referred to above. We also maintain a website at www.turnstonebio.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus or the registration statement of which this prospectus forms a part, and investors should not rely on such information in marking a decision to purchase our common stock in this offering.

INDEX TO THE CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Turnstone Biologics Corp.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Turnstone Biologics Corp. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive income (loss), redeemable convertible preferred stock and stockholders' deficit and cash flows for the years then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

The Company's Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has incurred a loss in the current year, negative cash flows from operations, and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risk of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2018.

San Diego, California
May 12, 2023

Turnstone Biologics Corp.
Consolidated Balance Sheets
(in thousands, except share and per share amounts)

	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 34,731	$ 123,381
Restricted cash	382	382
Short-term investments	47,330	37,638
Accounts receivable - collaboration agreement	8,728	6,715
Prepaid and other current assets	6,830	9,227
Total current assets	98,001	177,343
Other assets, noncurrent	2,582	536
Operating lease right of use assets	4,631	2,570
Property and equipment, net	9,724	6,795
Total assets	$ 114,938	$ 187,244
Liabilities, redeemable convertible preferred stock and stockholders' deficit		
Current liabilities:		
Accounts payable	$ 3,435	$ 28
Accrued expenses and other current liabilities	14,287	21,260
Operating lease liability, current	1,961	659
Deferred revenue, current	15,144	33,029
Total current liabilities	34,827	54,976
Deferred revenue, noncurrent	4,162	39,374
Operating lease liability, noncurrent	3,205	2,024
Other liabilities, noncurrent	2,267	967
Total liabilities	44,461	97,341
Redeemable convertible preferred stock		
Series A redeemable convertible preferred stock $0.001 par value; 11,250,000 shares authorized, issued and outstanding at December 31, 2022 and 2021 (liquidation preference of $8,643 as of December 31, 2022)	8,643	8,582
Series B-1 redeemable convertible preferred stock $0.001 par value; 16,285,156 shares authorized, issued and outstanding at December 31, 2022 and 2021 (liquidation preference of $12,611 at December 31, 2022)	12,611	12,611
Series B-2 redeemable convertible preferred stock $0.001 par value; 25,065,538 shares authorized, issued and outstanding at December 31, 2022 and 2021 (liquidation preference of $28,860 at December 31, 2022)	28,860	28,860
Series C redeemable convertible preferred stock $0.001 par value; 17,905,288 shares authorized, issued and outstanding at December 31, 2022 and 2021 (liquidation preference of $42,100 at December 31, 2022)	42,100	42,048
Series D redeemable convertible preferred stock $0.001 par value; 29,285,356 and 29,285,356 shares authorized, issued and outstanding at December 31, 2022 and 2021 (liquidation preference of $80,000 at December 31, 2022)	79,730	79,653
Total redeemable convertible preferred stock	171,944	171,754
Stockholders' deficit		
Common stock, $0.001 par value; 147,892,358 shares authorized, 23,288,878 and 20,371,276 shares issued and outstanding as of December 31, 2022 and December 31, 2021, respectively	23	18
Additional paid-in capital	20,481	9,100
Accumulated other comprehensive loss	(413)	(245)
Accumulated deficit	(121,558)	(90,724)
Total stockholders' deficit	(101,467)	(81,851)
Total liabilities, redeemable convertible preferred stock and stockholders' deficit	$ 114,938	$ 187,244

The accompanying notes are an integral part of these consolidated financial statements.

Turnstone Biologics Corp.
Consolidated Statements of Operations and Comprehensive Income (Loss)
(in thousands, except share and per share data)

	Year Ended December 31,	
	2022	2021
Collaboration revenue	$ 73,300	$ 101,293
Operating expenses:		
Research and development	86,703	54,754
General and administrative	18,223	13,546
Total operating expenses	104,926	68,300
Income (loss) from operations	(31,626)	32,993
Other income (expense), net	933	708
Net income (loss) before income taxes	(30,693)	33,701
Provision for income taxes	(141)	(432)
Net income (loss)	$ (30,834)	$ 33,269
Other comprehensive income (loss):		
Unrealized loss on available-for-sale debt securities	(168)	(22)
Total comprehensive income (loss)	$ (31,002)	$ 33,247
Net income (loss)	$ (30,834)	$ 33,269
Less: accretion of preferred stock to redemption value	$ (190)	$ (190)
Less: undistributed earnings allocable to participating securities	$ —	$ (29,600)
Net income (loss) attributable to common stockholders, basic and diluted	$ (31,024)	$ 3,479
Weighted-average number of shares used in computing net earnings (loss) per share		
Basic	19,884,775	17,168,919
Diluted	19,884,775	21,562,009
Net income (loss) per share attributable to common stockholders		
Basic	$ (1.56)	$ 0.20
Diluted	$ (1.56)	$ 0.16

The accompanying notes are an integral part of these consolidated financial statements.

Turnstone Biologics Corp.
Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit
(in thousands, except share amounts)

	Series A Redeemable Convertible Preferred Stock		Series B-1 Redeemable Convertible Preferred Stock		Series B-2 Redeemable Convertible Preferred Stock		Series C Redeemable Convertible Preferred Stock		Series D Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2020	11,250,000	$ 8,500	16,285,156	$ 12,611	25,065,538	$ 28,860	17,905,288	$ 41,978	—	$ —	19,599,818	$ 17	$ 6,340	$ (223)	$ (123,993)	$ (117,859)
Issuance of Series D redeemable convertible preferred stock, net of issuance costs of $308									29,285,356	$ 79,615						—
Accretion of redeemable convertible preferred stock issuance costs		$ 82						$ 70		$ 38			$ (190)			(190)
Exercise of stock options											771,458	$ 1	$ 338			339
Stock-based compensation expense													$ 2,612			2,612
Unrealized loss on available-for-sale debt securities														$ (22)		(22)
Net income															$ 33,269	33,269
Balance at December 31, 2021	11,250,000	$ 8,582	16,285,156	$ 12,611	25,065,538	$ 28,860	17,905,288	$ 42,048	29,285,356	$ 79,653	20,371,276	$ 18	$ 9,100	$ (245)	$ (90,724)	$ (81,851)
Issuance of common stock upon Myst milestone achievement											1,694,915	$ 2	$ 4,998			5,000
Moffitt performance-based common stock award											732,600	$ 2	$ 2,049			2,051
Accretion of redeemable convertible preferred stock issuance costs		$ 61						$ 52		$ 77			$ (190)			(190)
Exercise of stock options											490,087	$ 1	$ 1,576			1,587
Stock-based compensation expense													$ 4,368			4,368
Unrealized loss on available-for-sale debt securities														$ (168)		(168)
Net income (loss)															$ (30,834)	(32,360)
Balance at December 31, 2022	11,250,000	$ 8,643	16,285,156	$ 12,611	25,065,538	$ 28,860	17,905,288	$ 42,100	29,285,356	$ 79,730	23,288,878	$ 23	$ 20,481	$ (413)	$ (121,538)	$ (101,467)

The accompanying notes are an integral part of these consolidated financial statements.

Turnstone Biologics Corp.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31, 2022	2021
Operating Activities		
Net income (loss)	$ (30,834)	$ 33,269
Adjustments to reconcile net income (loss) to net cash used in operating activities:		
Stock-based compensation expense	4,368	2,612
Unrealized foreign exchange loss	—	21
Depreciation and amortization	3,901	1,390
Impairment of ROU asset	497	—
Expense related to Moffitt performance-based common stock award	2,051	—
Non-cash operating lease cost	—	622
Amortization/(Accretion) of premium on short term investments	(98)	542
Change in fair value of contingent consideration liability	7,019	1,670
Changes in operating assets and liabilities:		
Accounts receivable - collaboration agreement	(2,013)	(2,366)
Prepaid and other current assets	351	(2,671)
Tax liability	—	(101)
Operating lease liabilities	(1,735)	(629)
Accounts payable	3,407	(2,157)
Accrued compensation and other accrued liabilities	(4,879)	4,106
Deferred revenue	(53,097)	(81,937)
Net cash flows used in operating activities	(71,062)	(45,629)
Investing Activities		
Proceeds from maturities of short-term investments	49,750	41,445
Purchase of short-term investments	(59,512)	(41,387)
Purchases of property and equipment	(5,170)	(3,406)
Net cash flows used in investing activities	(14,932)	(3,348)
Financing Activities		
Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs	—	79,615
Payment of contingent consideration related to Myst milestone	(2,813)	
Proceeds from exercise of stock options	157	339
Net cash flows provided by and (used in) financing activities	(2,656)	79,954
Net increase (decrease) in cash, cash equivalents and restricted cash	(88,650)	30,977
Cash, cash equivalents and restricted cash at beginning of the period	123,763	92,786
Cash, cash equivalents and restricted cash at end of the period	$ 35,113	$ 123,763
Supplemental Disclosure of Cash Flow Information:		
Cash paid for income taxes	83	2,014
Supplemental Disclosure of Non-Cash Investing and Financing Activities:		
Accretion of redeemable convertible preferred stock	190	190
Equipment purchases included in accrued expenses	—	1,281
Additions to ROU assets obtained by assuming operating lease liabilities	4,218	—
Issuance of common stock to settle Myst contingent consideration liability	5,000	—

The accompanying notes are an integral part of these consolidated financial statements.

1. Nature of the Business and Basis of Presentation

Organization

Turnstone Biologics Corp. (the "Company" or "Turnstone") is a clinical stage biotechnology company focused on developing new medicines to treat and cure patients with solid tumors. Turnstone is pioneering a differentiated approach to tumor infiltrating lymphocytes ("TILs"), a clinically validated technology for treating solid tumors. The Company is developing next generation TIL therapies by selecting the most potent and tumor-reactive T cells ("Selected TILs"). The Company has initiated two Phase 1 clinical trials for its lead Selected TIL product candidate, TIDAL-01, for the treatment of breast cancer, colorectal cancer, uveal melanoma and other non-cutaneous and cutaneous melanomas.

Turnstone Biologics Inc. ("Turnstone Canada") was incorporated as a Canadian corporation on March 27, 2014. On December 13, 2018, Turnstone Biologics Corp. was incorporated under the laws of the State of Delaware. On December 14, 2018, the Company completed a reorganization from Canada to the United States (the "Reorganization"). In connection with the Reorganization, all of the shareholders of Turnstone Canada exchanged their shares in Turnstone Canada for shares of the newly incorporated Delaware entity, as a result of which Turnstone Canada became the newly incorporated Delaware entity's wholly owned subsidiary. The corporate reorganization was a common control reorganization applied on a retrospective basis. The Company's headquarters are located in San Diego, California.

Liquidity and Capital Resources

Going Concern

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business, and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or amounts and classification of liabilities that may result from the outcome of this uncertainty. Management is required to perform a two-step analysis over the Company's ability to continue as a going concern. Management must first evaluate whether there are conditions and events that raise substantial doubt about the Company's ability to continue as a going concern (Step 1). If management concludes that substantial doubt is raised, management is also required to consider whether its plans alleviate that doubt (Step 2).

The Company incurred a loss in the current year and negative cash flows from operations and management's cash flow forecasts indicate that based on the Company's expected future operating losses and negative cash flows, there is substantial doubt about the Company's ability to continue as a going concern for 12 months after the date the consolidated financial statements for the year ended December 31, 2022 were issued. The Company's ability to continue as a going concern is dependent upon its ability to raise additional funding. Management intends to raise additional capital through equity offerings, debt financings or other capital sources, including potential collaborations, licenses and other similar arrangements. However, the Company may not be able to secure additional financing in a timely manner or on favorable terms, if at all. Furthermore, if the Company issues equity securities to raise additional funds, its existing stockholders may experience dilution, and the new equity securities may have rights, preferences and privileges senior to those of the Company's existing stockholders. If the Company raises additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish valuable rights to its current and potential future product candidates and programs on terms that are not favorable to the Company. If the Company is unable to raise capital when needed or on attractive terms, it would be forced to delay, reduce or eliminate its research and development programs or other operations. If any of these events occur, the Company's ability to achieve the development and commercialization goals would be adversely affected.

Sources of Liquidity

Since the Company's inception, the Company has devoted substantially all of its efforts and financial resources to organizing and staffing the Company, business planning, raising capital, discovering product candidates and

securing related intellectual property rights, and conducting research and development activities for its Selected TIL programs and product candidates. The Company does not have any products approved for sale, has not generated any revenue from product sales, and incurred net losses from commencement of its operations through December 31, 2022. The Company's expenses primarily have been for research and development and related administrative costs. The Company has financed its operations through the issuance and sale of shares of the Company's redeemable convertible preferred stock and from collaboration revenue received pursuant to certain collaboration agreements.

The Company had net loss of $30.8 million for the year ended December 31, 2022, an accumulated deficit of $121.6 million as of December 31, 2022, and will require substantial additional capital to fund operations for the next several years. As of December 31, 2022, the Company had $82.4 million of cash, cash equivalents, restricted cash, and short-term investments. Cash used in operating activities for the year end December 31, 2022 was $71.1 million. Management believes that the currently available resources, including cash, will not provide sufficient funds to enable the Company to meet its operating plan for at least the next 12 months from the date of issuance of these financial statements.

The Company intends to fund future operations and future capital funding needs through equity and/or debt financings, as well as possible asset sales, licensing transactions, and collaborations or strategic partnerships with other companies. The sale of equity or convertible debt could result in additional dilution to stockholders. The incurrence of indebtedness would result in debt service obligations and could result in operating and financial covenants that would restrict the Company's operations. The Company can provide no assurance that sufficient financing will be available on acceptable terms, if at all. If the Company is not able to secure adequate additional funding it may be forced to make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. Any of these actions could materially harm the Company's business.

Risks and Uncertainties

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. Product candidates currently under development will require significant additional research and development efforts, including non-clinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance and reporting capabilities. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include the accounts of the Company and its subsidiaries. Intercompany transactions have been eliminated in consolidation. The Company's consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative accounting principles generally accepted in the United States as found in the Accounting Standard Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB").

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. On an ongoing basis, management evaluates its estimates, including those related to accrued expenses, contingent liabilities, revenue recognition, the valuation of equity-based compensation, common stock, restricted common stock, and income taxes. The Company bases its estimates on various assumptions that the Company believes to be reasonable under the circumstances. Actual results could differ from those estimates.

Segment Reporting

The Company has determined that it operates and manages one operating segment, which is the business of developing and commercializing therapeutics. The Company's chief operating decision maker, its chief executive officer, reviews financial information on an aggregate basis for the purpose of allocating resources.

Cash and Cash Equivalents

Cash and cash equivalents consist of checking, money market and highly liquid investments that are readily convertible to cash and that have an original maturity of three months or less from date of purchase. The carrying amounts approximate fair value due to the short maturities of these instruments.

Restricted Cash and Investments

Restricted cash consists of certificate of deposit accounts that are pledged as collateral for the Company's New York and San Diego facility leases. Restricted cash was approximately $0.4 million as of December 31, 2022 and 2021, respectively.

The Company invests its excess cash in investment grade, short-term, fixed income securities and recognizes purchased securities on the settlement date. All investments have been classified as "available-for-sale" in the consolidated balance sheets, and are carried at estimated fair value based upon quoted market prices or pricing models for similar securities. Management determines the appropriate classification of its investments at the time of purchase and re-evaluates such designation as of each balance sheet date. Unrealized gains and losses on available-for-sale securities are included in accumulated other comprehensive income (loss), net of tax effects. The Company periodically reviews available-for-sale securities for other-than temporary declines in fair value below the cost basis, and whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Realized gains and losses are reported in other income (expense), net. Interest on short-term investments is included in interest and other income, net. The Company's investments are classified as current assets, even though the stated maturity date may be one year or more beyond the current balance sheet date, which reflects management's intention to use the proceeds from sales of these securities to fund its operations, as necessary.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, investments and restricted cash. The Company's investment policy restricts cash investments to high credit quality, investment grade investments. The Company's investment policy provides guidelines and limits regarding investment type, concentration, credit quality, and maturity aimed at maintaining sufficient liquidity to satisfy operating and working capital requirements along with strategic initiatives, preserving capital, and minimizing risk of capital loss while generating returns on its investments. The Company is exposed to credit risk in the event of default by the issuer or the institutions holding the cash and cash equivalents to the extent of the amounts recorded on the balance sheets.

The Company has a concentration of credit risk associated with the receivables due from its collaborator Takeda Pharmaceutical Company ("Takeda"). As of December 31, 2022 and 2021, Takeda accounted for 100% of the Company's accounts receivable balance. As of December 31, 2022 and 2021, there were no reserves against accounts receivable. During the years ended December 31, 2022 and 2021, the Company did not recognize any charges for write-offs of accounts receivable.

The Company has no off-balance sheet risk, such as foreign exchange contracts, option contracts or other foreign-hedging arrangements.

Fair Value Measurements

The Company applies fair value accounting for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the consolidated financial statements on a recurring basis. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy requires that an entity maximize the use of observable inputs when estimating fair value. The fair value hierarchy includes the following three-level classification which is based on the market observability of the inputs used for estimating the fair value of the assets or liabilities being measured:

Level 1 – Quoted market prices in active markets for identical assets or liabilities.

Level 2 – Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 – Inputs that are generally unobservable and typically reflect management's estimate of assumptions that a market participant would use in pricing the asset or liability.

Fair value accounting is applied for all financial assets and liabilities and non-financial assets and liabilities that are recognized at fair value in the consolidated financial statements on a recurring basis (at least annually). To the extent the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair values requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized as Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Investment Tax Credits

The Company claims Scientific Research and Experimental Development ("SR&ED") deductions and related investment tax credits for income tax purposes based upon management's interpretation of the applicable legislation in the *Income Tax Act* (Canada). Investment tax credits are subject to Canada Revenue Agency review and assessment of the eligibility of the Company's research expenditures. These tax credits are applied to reduce the related research and development expenses incurred in the year recognized. Actual investment tax credits received may differ from those estimated and recorded in these consolidated financial statements.

Property and Equipment

Property and equipment are recorded at cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the respective assets, which are two to three years for computer equipment and software, and five years for laboratory, office equipment and furniture. Leasehold improvements are amortized over the shorter of the useful life or the remaining term of the lease.

Impairment of Long-Lived Assets

The Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of these assets is determined by comparing the forecasted undiscounted net cash flows of the operation to which the assets relate to the carrying amount. If the operation is determined to be unable to recover the carrying amount of its assets, then these assets are written down first, followed by other long-lived assets of the operation to fair value. Fair value is determined based on discounted cash flows or appraised values, depending on the nature of the assets. For the years ended December 31, 2022 and 2021, there was $0.5 million and $0, respectively, recorded in impairment losses recognized for long-lived assets related to the sub-lease of the Company's New York office (*See Note 11 – Leases* for additional information).

Revenue Recognition

The Company enters into collaboration arrangements that may include the receipt of payments for up-front license fees, success-based milestone payments, full time equivalent based payments for research services, and royalties on any future sales of commercialized products that result from the collaborations.

Effective January 1, 2017, the Company adopted the provisions of ASC Topic 606, *Revenue from Contacts with Customers* ("ASC 606"). Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine the appropriate amount of revenue to be recognized for arrangements determined to be within the scope of ASC 606, the Company performs the following five steps: (i) identification of the contract(s) with the customer, (ii) identification of the promised goods or services in the contract and determination of whether the promised goods or services are performance obligations, (iii) measurement of the transaction price, (iv) allocation of the transaction price to the performance obligations, and (v) recognition of revenue when (or as) the Company satisfies each performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect consideration it is entitled to in exchange for the goods or services it transfers to the customer.

The Company accounts for a contract with a customer that is within the scope of ASC 606 when all of the following criteria are met: (i) the arrangement has been approved by the parties and the parties are committed to perform their respective obligations, (ii) each party's rights regarding the goods or services to be transferred can be identified, (iii) the payment terms for the goods and services to be transferred can be identified, (iv) the arrangement has commercial substance and (v) collection of substantially all of the consideration to which the Company will be entitled in exchange for the goods or services that will be transferred to the customer is probable.

The Company estimates the transaction price based on the amount of consideration the Company expects for transferring the promised goods or services in the contract. The consideration may include both fixed consideration and variable consideration. At the inception of each arrangement that includes variable consideration, the Company evaluates the amount of the potential payments and the likelihood that the payments will be received. The Company utilizes either the most likely amount method or expected value method to estimate the transaction price based on which method better predicts the amount of consideration expected to be received. If it is probable that a significant revenue reversal would not occur, the variable consideration is included in the transaction price.

For arrangements that include development and regulatory milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the Company's control or the licensee's control, such as regulatory approvals, are not considered probable

of being achieved until those approvals are received. At the end of each reporting period, the Company re-evaluates the probability of achievement of such milestones and any related constraint, and if necessary, adjusts the estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect collaboration revenue and net income (loss) in the period of adjustment.

For sales-based royalties, including milestone payments based on the level of sales, the Company determines whether the sole or predominant item to which the royalties relate is a license. When the license is the sole or predominant item to which the sales-based royalty relates, the Company recognizes revenue at the later of: (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

The Company allocates the transaction price based on the estimated standalone selling price. The Company must develop assumptions that require judgment to determine the standalone selling price for each performance obligation identified in the contract. The Company utilizes key assumptions to determine the standalone selling price, which may include other comparable transactions, pricing considered in negotiating the transaction and the estimated costs. Certain variable consideration is allocated specifically to one or more performance obligations in a contract when the terms of the variable consideration related to the satisfaction of the performance obligation and the resulting amounts allocated to each performance obligation are consistent with the amounts the Company would expect to receive for each performance obligation.

For performance obligations, which consist of licenses and other promises, the Company utilizes judgment to assess the nature of the combined performance obligation in order to determine whether the combined performance obligation is satisfied over time or at a point in time. The Company determines the appropriate method of measuring progress of combined performance obligations satisfied over time for purposes of recognizing revenue determined on a contract by contract basis (*See Note 6 – Agreements* for additional information). The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company will recognize revenue from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license.

The Company receives payments from customers based on billing schedules established in each contract. Up-front payments and fees are recorded as deferred revenue upon receipt or when due until the Company performs its obligations under these arrangements. Amounts are recorded as accounts receivable when the Company's right to consideration is unconditional.

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development costs consist of payroll and other personnel-related expenses, materials and supplies, preclinical expenses, manufacturing expenses, contract research and development services, and consulting costs, as well as allocations of facilities and other overhead costs. Costs of certain development activities, such as manufacturing, are recognized based on an evaluation of the progress to completion of specific tasks. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the consolidated financial statements as prepaid or accrued research and development costs. Non-refundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed. Costs associated with collaboration agreements are included in research and development expense. Assets acquired that are used for research and development and which have no alternative use are expensed to research and development costs.

Preclinical and Clinical Trial Accruals

The Company makes estimates of its accrued expenses as of each balance sheet date in the consolidated financial statements based on the facts and circumstances known at that time. Accrued expenses for preclinical studies and clinical trials are based on estimates of costs incurred and fees that may be associated with services provided by contract research organizations ("CROs"), clinical trial investigational sites and other clinical trial-related activities. Payments under certain contracts with such parties depend on factors such as successful enrollment of patients, site initiation and the completion of clinical trial milestones. In accruing for these services, the Company estimates the time period over which services will be performed and the level of effort to be expended in each period. If possible, the Company obtains information regarding unbilled services directly from these service providers. However, the Company may be required to estimate these services based on other available information. If the Company underestimates or overestimates the activities or fees associated with a study or service at a given point in time, adjustments to research and development expenses may be necessary in future periods. Historically, estimated accrued liabilities have approximated actual expense incurred. Subsequent changes in estimates may result in a material change in accruals.

Patent Costs

All patent-related costs incurred in connection with filing and prosecuting patent applications are expensed as incurred due to the uncertainty about the recovery of the expenditure. Amounts incurred are classified as general and administrative expenses.

Stock-Based Compensation

The Company measures the cost of employee, nonemployee and director services received in exchange for an award of equity instruments based on the fair value of the award on the date of grant and recognizes the related expense over the period during which the employee, nonemployee or director is required to provide service in exchange for the award on a straight-line basis.

The Company estimates the fair value of options granted using the Black-Scholes option pricing model ("Black-Scholes") and the fair value of common stock to determine the fair value of restricted stock. The determination of fair value for stock-based awards on the date of grant using an option-pricing model requires management to make certain assumptions regarding a number of variables. Upon adoption of ASU 2016-09, the Company can make an accounting policy election to either estimate the number of share-based awards that are expected to vest, or account for forfeitures when they occur. The Company elected to account for forfeitures when they occur. As such, the Company recognizes stock-based compensation expense, over the requisite service period, based on the vesting provisions of the individual grants.

The Black-Scholes option pricing model requires inputs based on certain subjective assumptions, including (a) the expected stock price volatility, (b) the expected term of the award, (c) the risk-free interest rate and (d) expected dividend yield. Due to the lack of a public market for the Company's common stock and lack of company- specific historical and implied volatility data, the Company has based its computation of expected volatility on the average historical volatility of a representative group of public companies with similar characteristics to the Company, including stage of product development and life science industry focus. The historical volatility is calculated based on a period of time commensurate with the expected term. The Company uses the simplified method as prescribed by the U.S. Securities and Exchange Commission Staff Accounting Bulletin No. 107, *Share-Based Payment*, to calculate the expected term for options granted to employees as it does not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term. The expected term is applied to the stock option grant group as a whole, as the Company does not expect substantially different exercise or post-vesting termination behavior among its employee population. The risk-free interest rate is based on a treasury instrument whose term is consistent with the expected term of the stock options. The expected dividend yield is assumed to be zero as the Company has never paid dividends and has no current plans to pay any dividends on its common stock.

Determination of Fair Value of Common Stock

There are significant judgments and estimates inherent in the determination of the fair value of the Company's common stock. These estimates and assumptions include a number of objective and subjective factors, including, among other things, external market conditions, the prices at which the Company sold shares of its convertible preferred stock, the superior rights and preferences of securities senior to its common stock at the time of, and the likelihood of, achieving a liquidity event, such as an initial public offering or sale of the Company. The approach to estimating the fair market value of common stock is consistent with the methods outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held Company Equity Securities Issued as Compensation* (the "Practice Aid").

In valuing the Company's common stock, the equity value of the business was determined using the backsolve method, a form of the subject company transaction method, wherein the equity value for a privately held company is derived from a recent transaction in the company's own securities. The value is then allocated using the hybrid method allocation methodology. For grants made prior to September 30, 2018, in accordance with the Practice Aid, the Company determined the option pricing method ("OPM"), was the most appropriate method for determining the fair value of the Company's common stock based on its stage of development and other relevant factors. For grants made subsequent to September 30, 2018, the Company used a hybrid method, which is a hybrid between the OPM and the probability-weighted expected return method ("PWERM"). The hybrid method is a combination of the PWERM and OPM. The OPM allocates the overall Company value to the various share classes based on differences in liquidation preferences, participation rights, dividend policy and conversion rights, using a series of call options. The call right is valued using a Black-Scholes option pricing model. The PWERM employs additional information not used in the OPM, including various market approach calculations depending upon the likelihood of various discrete future liquidity scenarios, such as an initial public offering or sale of the Company, as well as the probability of remaining a private company. In a hybrid method, various exit scenarios are analyzed. A discount for lack of marketability of the Company's common stock is then applied to arrive at an indication of value for the common stock.

Redeemable Convertible Preferred Stock

The Company records all proceeds from redeemable convertible preferred stock ("Preferred Stock") net of issuance costs. The Company classifies Preferred Stock outside of stockholders' deficit due to certain events that are outside of the Company's control, including sale or transfer of control of the Company, or redemption upon the election of the required majority of the Preferred Stockholders any time after June 29, 2026, as holders of the Preferred Stock could cause redemption of the shares in these situations. The Company adjusts the carrying values of the Preferred Stock to the ultimate redemption values over the period from issuance to the earliest redemption date.

Income Taxes

The Company accounts for the effect of income taxes in its consolidated financial statements using the asset and liability method in accordance with ASC Topic 740, Income Taxes ("ASC 740"). This process involves estimating actual current tax liabilities together with assessing the impact of carryforward and temporary differences resulting from the differing treatment of items such as depreciation for tax and accounting purposes. These differences result in deferred tax assets and liabilities which are measured using enacted tax rates expected to apply to taxable income in the year in which those temporary differences are expected to reverse.

The Company regularly assesses the likelihood that the deferred income tax assets will be realized. A valuation allowance to reduce the deferred tax assets to the amount that the Company believes is more likely than not to be realized is established based on their judgement of all available positive and negative evidence. The assessment is completed on a taxing jurisdiction basis for each tax-paying component and takes into account a number of types of evidence, including:

- the nature and history of current or cumulative financial reporting income or losses;
- sources of future taxable income;

- the anticipated reversal or expiration dates of deferred tax assets; and
- tax planning strategies.

The Company has established a valuation allowance to offset its gross deferred tax assets as of December 31, 2022 and 2021 due to the uncertainty of realizing future tax benefits primarily related to net operating loss carryforwards and income tax credits in Canada.

The Company applies ASC 740-10 Income Taxes which requires a two-step approach to recording a tax benefit in the consolidated financial statements. The first step requires an evaluation of the tax position to determine whether it is “more likely than not”, based on the technical merits, that it will be sustained on audit. Provided that the tax position satisfies the recognition step, the Company then measures and records the position at the largest amount of tax benefit that is greater than 50 percent likely of being realized upon settlement of the audit. The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and may not accurately anticipate actual outcomes. The Company recognizes accrued interest and penalties related to unrecognized tax benefits. There were no accrued interest and penalties as of December 31, 2022.

Net Earnings (Loss) Per Share

The Company applies the two-class method to compute basic and diluted net earnings (loss) per share because it has issued redeemable convertible preferred stock that meet the definition of participating securities. The two-class method determines net earnings (loss) per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires earnings available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to share in the earnings as if all earnings for the period had been distributed. During periods of loss, there is no allocation required under the two-class method since the participating securities do not have a contractual obligation to fund the losses of the Company.

Basic net earnings (loss) per share attributable to common stockholders is calculated by dividing the net earnings (loss) attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period.

Diluted net earnings (loss) per share is computed by giving effect to all potentially dilutive securities outstanding for the period using the treasury stock method or the if-converted method based on the nature of such securities. For periods in which the Company reports net losses, diluted net loss per common share attributable to common stockholders is the same as basic net loss per common share attributable to common stockholders, because potentially dilutive common shares are not assumed to have been issued if their effect is anti-dilutive.

Foreign Currency

The accumulated other comprehensive loss on the balance sheet includes foreign currency translation adjustments through December 31, 2015 recorded in connection with the change in functional currency from the Canadian dollar to the U.S. dollar. Gains or losses resulting from transactions denominated in foreign currencies are recorded as a component of other income or expense, within the consolidated statements of operations and comprehensive income (loss).

Leases

At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present. Operating lease liabilities and their corresponding

right-of-use assets are recorded based on the present value of lease payments over the expected lease term. The interest rate implicit in lease contracts is typically not readily determinable. As such, the Company utilizes its incremental borrowing rate, which is the rate incurred to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment. Certain adjustments to the right-of-use asset may be required for items such as initial direct costs paid or incentives received.

The Company has elected to combine lease and non-lease components as a single component. The lease expense is recognized over the expected term on a straight-line basis. The lease term for all of the Company's leases includes the non-cancellable period of the lease plus any additional periods covered by either a Company option to extend (or not to terminate) the lease that the Company is reasonably certain to exercise. Variable lease payments associated with the Company's leases are recognized when the event, activity, or circumstance in the lease agreement on which those payments are assessed occurs. Variable lease payments are presented in the Company's consolidated statements of operations and comprehensive income (loss) in the same line item as expense arising from fixed lease payments for operating leases. Balances related to operating leases are recognized on the consolidated balance sheets as right-of-use assets, operating lease liabilities, current and operating lease liabilities, non-current.

Contingent Consideration

Consideration paid related to the Myst Merger Agreement (as defined below) may include potential future payments that are contingent upon the Company achieving certain milestones in the future. Contingent consideration liabilities are measured at their estimated fair value as of the date of the consolidated balance sheets using a probability-based income approach based on the monetary value of the milestone payment discounted for the likelihood of achieving the milestone and a present value factor based on the timing of when the milestone is expected to be achieved. The Company evaluated each contingent consideration payable and determined that, in each case, ASC 480 was applicable.

Contingent consideration liabilities expected to be settled within 12 months after the balance sheet date are presented in current liabilities, with the non-current portion recorded under long term liabilities in the consolidated balance sheets. Changes in the fair value of the contingent consideration are recorded as research and development expenses in the consolidated statement of operations.

Recently Adopted Accounting Pronouncements

In December 2019, the FASB issued ASU 2019-12, Income Taxes ("Topic 740"): Simplifying the Accounting for Income Taxes. The amendments in ASU 2019-12 are intended to simplify various aspects related to accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. ASU 2019-12 was effective for the Company beginning January 1, 2022 and had no material impact on its consolidated financial statements.

Accounting Pronouncements Not Yet Adopted

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments—Credit Losses (Topic 326)—Measurement of Credit Losses on Financial Instruments, which has been subsequently amended by ASU No. 2018-19, ASU No. 2019-04, ASU No. 2019-05, ASU No. 2019-10, ASU No. 2019-11 and ASU No. 2021-03 ("ASU 2016-13"). The provisions of ASU 2016-13 modify the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology and require a consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for the Company on January 1, 2023, with early adoption permitted. The Company is currently in the process of evaluating the impact of ASU 2016-13 on the consolidated financial statements.

3. Fair Value of Financial Assets and Liabilities

For a description of the fair value hierarchy and our fair value methodology, (*See Note 2 – Summary of Significant Accounting Policies* for additional information). As of December 31, 2022 and 2021, the Company's restricted cash which is maintained as collateral in connection with its New York and San Diego facility leases (*See Note 2 – Summary of Significant Accounting Policies* for additional information) are valued using Level 1 inputs. The Company's highly liquid money market funds included within cash equivalents, restricted cash and U.S. treasury securities are valued using Level 1 inputs. The Company classifies its federal agency securities as Level 2. There were no transfers in or out of Level 1 and Level 2 during the periods presented. U.S. treasury securities are bonds issued by the U.S. government and are fully backed by the U.S. government. Given the frequency at which U.S. treasury securities trade and the accessibility of observable, quoted prices for such assets in active markets, they are recognized as Level 1 assets. Federal agency securities are bonds and notes issued by government-sponsored enterprises, including Fannie Mae, Freddie Mac and the Federal Home Loan Bank. Since federal agency securities typically do not trade as frequently as U.S. government agency securities and no exchange exists to price such investments, they are recognized as Level 2 assets.

The Company had $6.0 million and $6.8 million in contingent consideration liabilities as of December 31, 2022, and 2021 related to the Myst Merger Agreement. The contingent considerations balances are comprised of two separate potential milestone payments as well as the remaining unpaid liability of $2.2 million from the milestone achievement as of December 31, 2022 and three separate potential milestone payments as of December 31, 2021 with each measured at fair value (S*ee Note 7 – Asset Acquisition* for additional information). The fair value of the contingent consideration is estimated based on the monetary value of the milestone discounted for the likelihood of achieving the milestone and a present value factor based on the timing of when the milestone is expected to be achieved. The value for the contingent consideration balance is based on significant inputs not observable in the market which represents a Level 3 measurement within the fair value hierarchy.

The following tables represents a summary of the financial assets and liabilities that are measured on a recurring basis at fair value as of December 31, 2022 and 2021 *(in thousands)*:

	December 31, 2022			
	Level 1	Level 2	Level 3	Fair Value
Financial assets:				
Money market funds	$ 9,238	$ —	$ —	$ 9,238
Restricted cash[1]	382	—	—	382
U.S. government and agency securities[2]	30,649	16,681	—	47,330
Total financial assets	$40,269	$16,681	$ —	$ 56,950
Financial liabilities:				
Contingent consideration[3]	$ —	$ —	$5,994	$ 5,994
Total financial liabilities	$ —	$ —	$5,994	$ 5,994

	December 31, 2021			
	Level 1	Level 2	Level 3	Fair Value
Financial assets:				
Money market funds	$ 2,235	$ —	$ —	$ 2,235
Restricted cash[1]	382	—	—	382
U.S. government and agency securities[2]	32,641	4,997	—	37,638
Total financial assets	$35,258	$ 4,997	$ —	$ 40,255
Financial liabilities:				
Contingent considerations[3]	$ —	$ —	$6,788	$ 6,788
Total financial liabilities	$ —	$ —	$6,788	$ 6,788

(1) Restricted cash serves as deposits for the Company's New York and San Diego office leases.

(2) Included in short-term investments on the consolidated balance sheets and are classified as available-for sale debt securities.
(3) Contingent consideration related to the Myst Merger Agreement.

The following significant unobservable inputs were used in the valuation of the contingent consideration payable to the sole common stockholder of Myst pursuant to the Myst Merger Agreement at December 31, 2022 and December 31, 2021.

Contingent Consideration Liability	Fair Value as of December 31, 2022 (in thousands)	Valuation Technique	Unobservable Input	Range
Milestone payments	$ 5,994	Discounted cash flow	Likelihood of occurrence	20% - 100%
			Discount rate	22%
			Expected term (in years)	0.25 - 3.0

Contingent Consideration Liability	Fair Value as of December 31, 2021 (in thousands)	Valuation Technique	Unobservable Input	Range
Milestone payments	$ 6,788	Discounted cash flow	Likelihood of occurrence	10% - 50%
			Discount rate	22%
			Expected term (in years)	0.5 - 4.0

The following table reflects the activity for the Company's contingent consideration, measured at fair value using Level 3 inputs (in thousands):

Contingent consideration at December 31, 2021	$ 6,788
Changes in the fair value of contingent consideration	$ 7,019
Cash Payment of Myst milestone	$(2,813)
Equity issance related to milestone achievement	(5,000)
Contingent consideration at December 31, 2022	$ 5,994

As of December 31, 2022 and 2021, no material fair value adjustments were required for non-financial assets and liabilities.

The following tables show the Company's cash, cash equivalents and available-for-sale securities by significant investment category as of December 31, 2022 and 2021 (in thousands), respectively:

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Level 1: Money market funds	$ 9,238	$ —	$ —	$ 9,238
Restricted cash	382	—	—	382
U.S. government and agency securities	30,761	—	(112)	30,649
Level 2: U.S. government and agency securities	16,759	—	(78)	16,681
Total financial assets	$ 57,140	$ —	$ (190)	$ 56,950
Classified as:				
Cash and cash equivalents				$ 9,238
Restricted cash				382
Short-term investments				47,330
				$ 56,950

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Level 1: Money market funds	$ 2,235	$ —	$ —	$ 2,235
Restricted cash	382	—	—	382
U.S. government and agency securities	32,659	—	(18)	32,641
Level 2: U.S. government and agency securities	5,001	—	(4)	4,997
Total financial assets	$ 40,277	$ —	$ (22)	$ 40,255
Classified as:				
Cash and cash equivalents				$ 2,235
Restricted cash				382
Short-term investments				37,638
				$ 40,255

While short-term investments are available-for-sale, it is not more likely than not that the Company will be required to sell the investments before recovery of their amortized cost bases, which may be maturity.

The Company reviews short-term investments for impairment during each reporting period to determine if any of the securities have experienced an other-than-temporary decline in fair value. Credit losses are recognized up to the amount equal to the difference between the fair value and the amortized cost basis and recorded as an allowance for credit losses in the consolidated balance sheets with a corresponding adjustment to earnings. Unrealized losses that are not related to credit losses are recognized in accumulated other comprehensive loss. Unrealized losses were not significant for the investments held in the Company's portfolio as of December 31, 2022 and 2021. There were no impairment losses or expected credit losses related to its short-term investments during the years ended December 31, 2022 and 2021.

4. Property and Equipment, Net

Property and equipment as of December 31, 2022 and 2021 include the following (*in thousands*):

	Year Ended December 31,	
	2022	2021
Computer equipment and software	$ 376	$ 375
Laboratory equipment	12,901	5,045
Furniture	758	510
Leasehold improvements	1,308	1,308
Construction in progress	—	2,935
	15,343	10,173
Less accumulated depreciation and amortization	(5,619)	(3,378)
Total property and equipment, net	$ 9,724	$ 6,795

During 2022, the Company opened a new laboratory in San Diego resulting in $2.9 million being transferred form construction in process to laboratory equipment and the additional acquisition of $4.9 million in laboratory equipment.

Property and equipment depreciation and amortization expense for the years ended December 31, 2022 and 2021 was $2.2 million and $1.4 million, respectively.

The gain (loss) on disposal of property and equipment was $0.1 million and $0 for 2022 and 2021, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities as of December 31, 2022 and 2021 consisted of the following *(in thousands):*

	Year Ended December 31,	
	2022	2021
Research and development expense	$ 6,688	$ 10,508
Professional and consulting expense	1,170	1,429
Compensation	2,366	2,097
Tax liability, current	252	252
Contingent consideration, current	3,791	5,885
Other current liabilities	20	1,089
Total accrued expenses and other current liabilities	$ 14,287	$ 21,260

6. Agreements

AbbVie BioTechnology Ltd.

Collaboration Agreement

In September 2017, the Company entered into an exclusive research, option and license collaboration agreement (the "AbbVie Agreement") with AbbVie Biotechnology Ltd. ("AbbVie"). The AbbVie Agreement was focused on the research and development of up to three oncolytic viral immunotherapy targets, including the Ad-MG1-MAGEA3 therapy program ("MAGEA Program") and up to two research-stage candidates (each a "Research Program"), for which AbbVie had the option to obtain exclusive global development and commercialization rights upon the completion of contractual research and development services by the Company related to each of the three programs. If AbbVie exercised its option rights, for any of the up to three programs, AbbVie would have been responsible for all costs thereafter, including continued development, manufacturing and commercialization.

The AbbVie Agreement included a nonrefundable up-front payment of $90.0 million. AbbVie also agreed to pay the Company up to an aggregate of $220.0 million in option exercise and development milestone payments and up to an aggregate of $110.0 million upon the achievement of certain regulatory milestone events.

Under the AbbVie Agreement, the Company was obligated to use commercially reasonable efforts to perform research and development activities, under mutually agreed upon work plans. The work plans include: (i) MAGEA Program research and development services, which focus on completing Phase 1 and 2a clinical trials; and (ii) Research Programs services aimed to screen and develop two MG1 Maraba virus candidates that are ready for an investigational new drug application ("IND") submission. The Company was solely responsible for the costs and expenses incurred during the research and development stages of these programs through the delivery of data packages to AbbVie which trigger an option decision by AbbVie. After the delivery of the data packages for each program, the Company would not be obligated to perform any further research and development services.

The Company's research and development activities were conducted pursuant to the plans agreed to by the parties and overseen by a joint governance committee ("JGC"). The JGC consisted of an equal number of representatives from the Company and AbbVie and was responsible to oversee, review, and recommend direction of each program and variations of or modifications to the research plans.

Under the AbbVie Agreement, upon exercise of the MAGEA Option or Research Program Options, AbbVie was required to use commercially reasonable efforts to develop and commercialize at least one licensed product with

respect to the related option candidate in each of the United States, the United Kingdom, France, Germany, Italy, Spain, and Japan. After exercise of an Option, AbbVie was solely responsible for all development and commercialization activities relating to the licensed product at its sole cost and expense.

Under its collaboration with AbbVie, the Company was eligible to receive development, regulatory and commercialization milestone payments for each licensed product for which AbbVie exercises the MAGEA and Research Options. Collectively, should AbbVie exercise all three license options, the Company was eligible for up to $90.0 million of development milestones associated with the initiation of certain registration studies of the MAGEA Program and the Research Programs, up to $85.0 million of regulatory milestones associated with the regulatory approval by the U.S. Food and Drug Administration (“FDA”), European Medicines Agency (“EMA”) and Japanese Pharmaceuticals and Medical Devices Agency (“PMDA”), of the first licensed product related to the MAGEA Program and the first licensed product from the Research Programs. Additionally, the Company could earn $600 million in commercialization milestones associated with the first commercial sales in the United States, Japan and other major markets as well as milestones payable upon the achievement of certain net sales thresholds of licensed product that result from the MAGEA Program and Research Programs. The Company was also eligible to receive tiered, escalating royalties, in a range from a high-single digit to a low-teen percentage of aggregate net sales of each licensed product, subject to potential reductions in certain circumstances.

On June 12, 2021, the AbbVie Agreement was terminated following notice previously provided by AbbVie and in accordance with the AbbVie Agreement’s original terms.

Accounting Analysis

The Company assessed the promised goods and services under the AbbVie Agreement in accordance with ASC 606, and determined that the AbbVie Agreement includes the following performance obligations: (i) research and development services for the completion of Phase 1 and 2a clinical trials for MAGEA and delivery of related data package to AbbVie (“MAGEA Research Services”); and (ii) research and development services for the identification of up to two Research Programs and delivery of related data packages ready for IND submission to AbbVie (“Research Program Services”). The MAGEA Research Services are governed by their own work plan within the AbbVie Agreement and AbbVie can benefit from these services without the performance of any services related to Research Program Services, these represent a distinct performance obligation. Similarly, the Research Program Services are considered to be a distinct performance obligation to perform a body of research on the identified targets with the goal of identifying up to two product candidates as governed by its own research plans for which AbbVie can benefit from absent the MAGEA Research Services.

The Company received a non-refundable up-front payment of $90.0 million, of which $20.0 million was paid at inception, in September 2017 and $70.0 million was received in March 2018, in accordance with the AbbVie Agreement, which represents the transaction price at inception. The Company could have earned $15.0 million in milestones for each Research Program related to the achievement of certain success criteria during the provision of the Research Program Services. The Company used the most likely method to value this variable consideration as there are only two possible outcomes of achieving the individual milestones and concluded that no amounts would be included in the transaction price as it is not probable that the milestones will be achieved. This is due to the uncertainty surrounding the ability to achieve the success criteria contained in the Research Program Services development plan. Additional consideration to be paid to the Company upon the exercise of the MAGEA Option or Research Program Options by AbbVie and upon the achievement of certain development, regulatory and commercialization milestones, that are achievable only after the exercise of the license options, are excluded from the transaction price, as they relate to option fees and milestones that can only be achieved after the option exercise.

The Company has allocated the transaction price to the separate performance obligations based on their relative standalone selling price. The Company determined the standalone selling price for each performance obligation based on internal estimates of the costs to perform the research and development services, including internal

expenses and expenses with third parties for services and supplies, inclusive of a reasonable profit margin. Significant inputs used to determine the total expense of the research services include the length of time required, the internal hours expected to be incurred on the services, and the number and costs of various studies that will be performed to complete the MAGEA Research Services and Research Program Services.

Based on the relative standalone selling price, the allocation of the transaction price to the separate performance obligations was as follows:

Performance Obligations	Allocation of Transaction Price
MAGEA Research Services	$ 63.9 million
Research Program Services	$ 26.1 million
Total	$ 90.0 million

Costs incurred relating to the AbbVie Agreement consist of internal and external research and development costs, which primarily include salaries and benefits, lab supplies, and preclinical research studies. All of these costs are included in research and development expenses in the Company's statement of operations during the year ended December 31, 2021.

The Company recognizes the amounts associated with these services on a proportional performance basis over the contract term using input-based measurements of total cost of research and development incurred to estimate the proportion performed as compared to the estimated total cost and remeasures its progress towards completion at the end of each reporting period. There were no significant changes in estimate recorded prior to contract termination in 2021.

For the year ended December 31, 2021, the Company recognized $69.8 million of collaboration revenue related to the AbbVie Agreement. At the date of the termination of the AbbVie Agreement, the remaining deferred revenue associated with the non-refundable payments was recognized as collaboration revenue as there were no remaining performance obligations following the termination of the AbbVie Agreement. As of December 31, 2021, the deferred revenue balance in connection with the AbbVie Agreement was $0.

Takeda Pharmaceutical Company Limited

Collaboration Agreement

In November 2019, the Company entered into a discovery, collaboration and license agreement ("Takeda Agreement") with Millennium Pharmaceuticals, Inc. (also known as "Takeda Oncology"), a wholly owned subsidiary of Takeda Pharmaceutical Company Limited ("Takeda"). Under the Takeda Agreement, the Company agreed to collaborate with Takeda to co-develop and co-commercialize TBio-6517 (also known as "RIVAL-01") ("Development Program") and to conduct discovery programs to identify additional novel product candidates based on its vaccinia virus platform for independent development ("Discovery Program").

Under the Takeda Agreement, the Company granted Takeda and its affiliates a worldwide, irrevocable, non-transferable, co-exclusive, sublicensable license under certain of the Company's know-how and patent rights ("Turnstone Technology") to make, use, sell, offer for sale, develop, manufacture, and commercialize, or otherwise exploit TBio-6517 ("Licensed Compound") and products containing TBio-6517 ("Takeda Licensed Products") in all fields. Takeda granted the Company and the Company's affiliates an irrevocable, non- transferable, non-exclusive, sublicensable license under certain know-how and patent rights of Takeda ("Takeda Technology") to make, use, sell, offer for sale, develop, manufacture, and commercialize, or otherwise exploit the Licensed Compound and Takeda Licensed Products in all fields in accordance with joint development, commercialization, and medical affairs plans under the Takeda Agreement.

Under the Takeda Agreement, the Company also granted to Takeda and its affiliates a worldwide, non-transferable, non-exclusive, sublicensable license under Turnstone Technology to conduct joint discovery and research activities in all fields in accordance with joint research and discovery plans. Under the Takeda

Agreement, Takeda granted the Company a license to Takeda Technology to conduct discovery and research activities in all fields in accordance with joint research and discovery plans. The Company also granted to Takeda and its affiliates an exclusive option to obtain a worldwide, irrevocable, non-transferable, exclusive, sublicensable license under Turnstone Technology to make, use, sell, offer for sale, develop, manufacture, and commercialize, or otherwise exploit (i) selected discovery virus candidates generated and evaluated by the parties under a joint discovery program ("Selected Discovery Candidates"), and (ii) any corresponding licensed products containing a Selected Discovery Candidate ("Licensed Discovery Products"). Takeda may exercise this option with respect to two virus candidates and within a specified option exercise period. The Company granted Takeda and its affiliates a non-exclusive, perpetual, irrevocable, worldwide, sublicensable and fully paid-up license under certain of the Company's know-how and patents relating to manufacturing improvements developed under the Takeda Agreement solely for use in connection with the manufacture of products that do not comprise or incorporate, and that are not based on, an oncolytic virus. Takeda granted the Company and the Company's affiliates a non-exclusive, perpetual, irrevocable, worldwide, sublicensable and fully paid-up license under certain of Takeda's know-how and patents relating to manufacturing improvements developed under the Takeda Agreement solely for use in connection with the manufacture of any and all products. With respect to discovery virus candidates for which Takeda does not exercise its option, Takeda granted the Company a non-exclusive, perpetual, worldwide, sublicensable and royalty-bearing license under certain of its know-how and patents that is necessary or reasonably useful for the exploitation of such declined discovery virus candidates ("Declined Candidate License").

Responsibilities for the development of Licensed Compounds and Takeda Licensed Products are delineated pursuant to a joint development plan under the terms of the Takeda Agreement. The Company will be responsible for all activities under the joint development plan prior to completion of a Phase 2a clinical trial and Takeda will be responsible for all activities in the joint development plan upon and after completion of the Phase 2a clinical trial. Responsibilities relating to manufacturing, medical affairs, and commercialization of Licensed Compounds and Takeda Licensed Products are delineated pursuant to a manufacturing working plan, joint medical affairs plan and joint commercialization plan, respectively. The Company has the right to reduce or opt-out of its share of responsibilities for costs and expenses of certain development or commercialization activities for the Takeda Licensed Compounds and Takeda Licensed Products. Responsibilities for the discovery and research of Selected Discovery Candidates are delineated pursuant to joint discovery and research plans under the terms of the Takeda Agreement.

Under the Takeda Agreement, Takeda paid the Company a non-refundable payment of $50.0 million in November 2019, and an additional non-refundable payment of $30.0 million in April, 2020, for the option to license up to two Selected Discovery Candidates, with additional consideration of $15 million to be paid by Takeda to the Company for each exercise of such option.

Under the Takeda Agreement, the Company has the right to reduce its share of funding obligations with respect to development activities for the Licensed Compound and Takeda Licensed Products (the "Development Opt-Down Right"), or to opt-out of all further funding obligations with respect to development activities for the Licensed Compound and Takeda Licensed Products (the "Development Opt-Out Right"). Unless and until the Company exercises the Development Opt-Down Right, the parties will share evenly in any operating profits or losses with respect to joint development activities, joint medical affairs activities, and joint commercialization activities. If the Company exercises its Development Opt-Down Right, then starting from the effective date of the exercise of the right, Takeda will bear (and be entitled to) 70% and the Company will bear (and be entitled to) 30% of the operating profits or losses with respect to joint development activities, joint medical affairs activities, and joint commercialization activities. Takeda is obligated to pay the Company (i) up to $200.0 million in aggregate upon achievement of certain clinical and regulatory milestones for the first Takeda Licensed Product to achieve the applicable development milestone event, (ii) up to $150.0 million in aggregate for one-time payments upon achievement of certain sales milestones for each Takeda Licensed Product, (iii) up to $240.0 million in aggregate (if Takeda exercises both options to Selected Discovery Candidates) upon achievement of certain clinical and regulatory milestones for the first Takeda Licensed Discovery Product to achieve applicable

development milestone events, and (iv) up to $300.0 million in aggregate (if Takeda exercises both options to Selected Discovery Candidates) for one-time payments upon achievement of certain sales milestones for a Licensed Discovery Product. If the Company exercises its Development Opt-Out Right for the Takeda Licensed Products, then in lieu of the profit and loss share arrangement described above, the Company is entitled to receive tiered low- to high- teen percentage royalties on net sales of all Takeda Licensed Products by the Company or the Company's sublicensees during the royalty term, which commences on the first commercial sale of a Takeda Licensed Product in a country and ends on the later of the expiration of all licensed patents covering such Licensed Product in such country or ten years after the date of the first commercial sale in such country ("Royalty Term"). For Licensed Discovery Products, the Company is entitled to receive tiered high-single digit to low-teen percentage royalties on net sales of all Licensed Discovery Products by the Company or the Company's sublicensees during the Royalty Term. Royalty payments are subject to customary reductions.

Takeda has the right to terminate for convenience as follows: (i) prior to the expiration of the option exercise period related to a Discovery Virus Candidate, Takeda may terminate the Takeda Agreement related to such Discovery Virus Candidate and the Discovery Program with 90 days' notice, (ii) prior to any commercial sale, Takeda may terminate the Takeda Agreement either in its entirety or on a compound-by-compound or region-by-region basis, with six months' notice and (iii) after a commercial sale, Takeda may terminate the Takeda Agreement either in its entirety or on a compound-by-compound or region-by-region basis, with 12 months' notice.

Termination of Development Program

On June 13, 2022, Takeda provided six months' written notice to terminate the Development Program in accordance with its termination for convenience rights, with such termination being effective as of December 13, 2022. During the six months' notice period, the Company was obligated to continue providing the necessary Development Program services to wind down the program. Upon the effective termination date of December 13, 2022, Takeda's co-exclusive license to TBio-6517 terminated and the Company is no longer obligated to pursue development of TBio-6517.

Termination of Discovery Program

On January 6, 2023, Takeda provided written notice to the Company that it was exercising its right to terminate the remainder of the Takeda Agreement, with such termination being effective as of July 6, 2023 ("Termination Effective Date"). On the Termination Effective Date, all options and licenses granted under the Takeda Agreement will terminate (except for the Declined Candidate License) and Takeda will grant the Company a non-exclusive license under the patent rights and know-how controlled by Takeda as of the Termination Effective Date necessary for the Company to exploit the Licensed Compound and Takeda Licensed Products in the form existing as of the Termination Effective Date for any use worldwide, subject to a royalty to be agreed upon by Takeda and the Company.

Accounting Analysis

The Company assessed the promised goods and services under the Takeda Agreement in accordance with ASC 606, and determined that, at inception, the Takeda Agreement includes the following performance obligations: (i) research, development and manufacturing services under the Development Program for the completion of clinical trials through Phase 2a for RIVAL-01 and a co-exclusive license to exploit RIVAL-01 ("Development Program Performance Obligation"); and (ii) research and development services under the Discovery Program to identify and optimize four Selected Discovery Candidates for further development ("Discovery Program Performance Obligation"). The individual promises under the Development Program including research, development, manufacturing for clinical trials, and the co-exclusive license to RIVAL-01 are not individually distinct as they represent inputs into a combined output of advancing RIVAL-01 through the Phase 2a clinical trial. Therefore, all promises under the Development Program represent a single performance obligation. Similarly, the research and development services under the Discovery Program represent a single research

program aimed at generating four Selected Discovery Candidates and therefore represents a single performance obligation. The Development Program promises are distinct from the promises under the Discovery Program, as the benefits under each program are separately identifiable. Each program has a separate work plan and the promises to be provided under the Development Program do not relate to the promises to be provided under the Discovery Program.

The Company concluded that Takeda's license options under the Discovery Program do not represent material rights, and therefore are not performance obligations, as the Company is entitled to an additional $15.0 million payment for each license option exercised, which approximates the estimated standalone selling price of the underlying license.

The total transaction price at contract inception is $158.6 million, comprised of the following components:

- Fixed consideration of $80.0 million including a non-refundable up-front payment of $50.0 million in November 2019 and another non-refundable payment of $30.0 million that was due on April 1, 2020 and received in April 2020.
- Variable consideration related to the expense sharing under the Development Program. These amounts are determinable based on the Development Program plan and budget, and the Company has a contractual right to the payment of costs incurred under the agreed upon plan. Consistent with the expected value method, the Company estimated that it will receive $58.6 million under the expense sharing through the completion of the Phase 2a clinical trial. The Company has concluded that these amounts do not require a constraint and are included in the transaction price at inception. The Company has evaluated this estimate at each reporting date and updated the estimate based on information available.
- Variable consideration for the development milestones under the Development Program. The Company uses the most likely amount method to value this variable consideration as there are only two possible outcomes of achieving the individual milestones. Under the Development Program, the first milestone of $20.0 million is due upon acceptance of the IND by the FDA. At inception, the Company concluded that achievement of this milestone was highly probable and therefore the $20.0 million was included in the transaction price, and was received in March 2020. The second milestone of $15.0 million under the Development Program is due upon the initiation of the first Phase 2 clinical trial for a licensed product. The Company has determined that the most likely amount is $15.0 million, however, the Company will not include this $15.0 million milestone in the transaction price until it becomes probable that a significant reversal of cumulative revenue will not occur.

Additional consideration to be paid to the Company includes development and sales milestones, profit and loss share, royalties and option exercise payments. These additional payments are achievable only after the completion of the Phase 2a clinical trial under the Development Program or exercise of the license options under the Discovery Program and therefore are excluded from the transaction price. Additionally, Takeda's equity purchase commitments of up to $20.0 million are at fair value and therefore no non-cash consideration has been included as a component of the transaction price.

The Company allocated the transaction price to the separate performance obligations based on their relative standalone selling prices. The Company determined the standalone selling price of the Development Program Performance Obligation based on the costs incurred to develop RIVAL-01 plus the estimated costs to perform the research, development and manufacturing services through the completion of the Phase 2a clinical trial, inclusive of a reasonable profit margin. The Company determined the standalone selling price of the Discovery Program Performance Obligation based on the estimated costs to discover and research four Selected Discovery Candidates, inclusive of a reasonable profit margin. Significant inputs used to determine the standalone selling prices of the performance obligations include the length of time required, the internal hours expected to be incurred on the services, and the amount of third-party expenses that will be incurred to complete the performance obligations.

The Company recognizes the amounts associated with these performance obligations on a proportional performance basis over the contract term using input-based measurements of total cost of research and development incurred to estimate the proportion performed as compared to the estimated total cost and remeasures its progress towards completion at the end of each reporting period.

As of December 31, 2021 the transaction price was updated to $192.6 million to reflect an increase in the variable consideration related to the expense sharing under the Development Program from $58.6 million at inception to $92.6 million.

The Company determined that the notice of termination on June 13, 2022 represented a modification of the arrangement under ASC 606 and that the transaction price should be updated and re-allocated to the Development Program Performance Obligation and the Discovery Program Performance Obligation based on their original standalone selling prices, as follows:

Performance Obligations	Price Pre-Modification	Price at Modification
Development Program	$ 166.3 million	$ 134.3 million
Discovery Program	$ 26.3 million	$ 21.2 million
Total	$ 192.6 million	$ 155.5 million

Additionally, the Company updated its measure of progress for each performance obligation as of the modification date and recorded a cumulative adjustment that increased revenue by $31.6 million on the partially satisfied remaining performance obligations, as the remaining services to be performed under each of the performance obligations are not distinct from the services prior to the modification.

Costs incurred relating to the Takeda Agreement consist of internal and external research and development costs, which primarily include salaries and benefits, lab supplies, and preclinical research studies. All of these costs are included in research and development expenses in the Company's consolidated statements of operations and comprehensive income (loss) during the years ended December 31, 2022 and 2021.

The deferred revenue balance in connection with the Takeda Agreement as of December 31, 2022 and 2021 was $19.3 million and $72.4 million, respectively, which is classified as either current or noncurrent in the accompanying balance sheet based on the periods the performance obligations are expected to be performed. The Company expected to recognize the deferred revenue balance within two years. The Company recognized collaboration revenue related to the Takeda Agreement for the years ended December 31, 2022 and 2021 of $73.3 and $31.4 million, respectively. Revenue recognized in 2022 and 2021 of $51.6 million and $12.1 million, respectively, related to amounts included in deferred revenue liability balances at the period ending December 31, 2021 and 2020. Receivables related to reimbursable costs expected to be received from Takeda for research and development services performed under the Development Program for the years ended December 31, 2022 and 2021 were $8.7 million and $6.7 million, respectively.

H. Lee Moffitt Cancer Center

Master Collaboration Agreement

In January 2021, the Company entered into an amended and restated master collaboration agreement (the "Moffitt Agreement"), with Moffitt, to amend a then-existing master collaboration agreement from November 2019, as amended March 2020, between Moffitt and the Company's now wholly-owned subsidiary, Myst Therapeutics LLC, with the intent to continue to work collaboratively in the research of cancer immunotherapies.

Each party granted the other party a right to use its research materials for performance of the research plans agreed to by the parties (the "Research Plans"). Each party granted the other party a non-exclusive, worldwide, sublicensable, perpetual, irrevocable, royalty-free license under all inventions invented in performance of a Research Plan and invented jointly by the Company and Moffitt (the "Joint Inventions") (with certain exclusions) to make, use, sell, offer for sale, import products and services and/or otherwise practice such inventions.

The Company granted Moffitt a royalty free, non-sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented solely by the Company in the performance of a Research Plan for its internal non-commercial research purposes.

Moffitt granted the Company (i) a royalty-free, sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented solely by Moffitt in the performance of a Research Plan ("Moffitt Inventions"), (a) for internal, non-commercial research purposes outside the field of ACT and/or (b) to research, develop, make, use, sell, offer to sell, or import products and/or services in the field of ACT and (ii) a royalty free, sublicensable, non-transferable, perpetual, non-exclusive license to use and practice certain inventions invented in performance of a Research Plan or through the use of specified Moffitt research materials.

Moffitt granted the Company an option to obtain, with terms to be negotiated in good faith under commercially reasonable terms, a royalty-bearing, sublicensable exclusive license in the Moffitt Inventions, the TCR Inventions, and/or Moffitt's interest in Joint Inventions. The Company can exercise this option at any time within six months after Moffitt informs the Company of any new invention, and upon the Company's exercise, the parties will have a period of six months to negotiate the terms of such exclusive license.

The Moffitt Agreement will expire upon the later of (i) four years from the effective date of the Moffitt Agreement or (ii) the termination or expiration of all Research Plans in effect under the Moffitt Agreement, unless extended upon mutual written agreement of the parties. Either party may terminate the Moffitt Agreement for cause upon any uncured breach by the other party or upon the insolvency of the other party.

Moffitt Alliance Agreement

In June 2022, the Company entered into a life science alliance agreement with Moffitt (the "Alliance Agreement"), in order to further expand the Company's relationship and support the Company's existing agreements with Moffitt (the "Underlying Agreements"). Pursuant to the Alliance Agreement, the Company will have priority access to Moffitt's scientific research, manufacturing, and clinical capabilities for the development of novel TIL therapies, including expedited clinical trial activation, enhanced patient screening and data sharing, access to Moffitt's cellular therapies research and development infrastructure, expanded molecular data sets and biospecimens for research, and allocated cGMP manufacturing capacity for the Company's product candidates.

Under the Alliance Agreement, the Company is obligated to use commercially reasonable efforts to further develop TIL Products, to manufacture TIL Products, to obtain regulatory approval for at least one TIL Product in the United States and to commercialize TIL Products in all countries in which regulatory approval for a TIL Product has been obtained. For purposes of the Alliance Agreement, TIL Product means any pharmaceutical, biopharmaceutical, or biotechnology TIL product that has been developed by us or Moffitt and is advanced into clinical development under an IND sponsored by Moffitt.

Pursuant to the Alliance Agreement, the Company agreed to pay to Moffitt a total amount of at least $17.5 million (the "Alliance Funding Amount"), for research, development and manufacturing related services that will be paid in five equal annual installments on June 1st of each year starting on June 1, 2023. However, the aggregate amount the Company pays to Moffitt for all fees, costs, expenses and other payments pursuant to any Underlying Agreement with Moffitt entered into subsequent to February 7, 2022 may be credited against the Alliance Funding Amount. This reimbursement amount will be calculated annually at the conclusion of each payment period, and, to the extent the Company's annual aggregate payments to Moffitt exceed the applicable annual installment amount, the Company will receive a reduction in the amount due for future installment payments based on a predetermined formula agreed to by the parties. During 2022, the Company incurred expenses with Moffitt of $2.6 million toward the first years' annual installment.

In connection with the execution of the Alliance Agreement, the Company issued Moffitt 732,600 shares of its common stock. As partial consideration under the Alliance Agreement, the Company also agreed to issue Moffitt an additional 2,930,403 shares of its common stock in the aggregate upon the satisfaction of certain clinical and regulatory milestones with respect to TIL Products. The issuances of common stock are treated as performance-based stock awards. For the year ended December 31, 2022, $2.0 million was recorded in research and development expense in the consolidated statements of operations and comprehensive income (loss) for the

732,600 shares issued in connection with the execution of the contract and the achievement of the first milestone with the start of the Phase 1 trial. In addition, upon achievement of certain thresholds for aggregate net sales of all TIL Products, the Company is required to make tiered sales-based milestones payments to Moffitt of up to an aggregate of $50.0 million. With respect to each of the equity and sales milestones described above, TIL products include any pharmaceutical, biopharmaceutical or biotechnology TIL product that is developed by the Company or Moffitt and is advanced into clinical development under an IND sponsored by Moffitt.

Unless earlier terminated, the Alliance Agreement will remain in effect for a term of five years and may be extended for additional periods upon the mutual written consent of both parties. Either party may terminate the Alliance Agreement in the event of (i) the other party's material breach of the Alliance Agreement that remains uncured after ninety days of receiving written notice of such breach (or in the case of breach of payment obligations, within ten days), (ii) the other party's insolvency and (iii) a pandemic event resulting in government lockdowns or orders that legally compel such party to cease operations or that result in material disruptions in the available workforce and prevents such party from performing its contractual obligations for a period of more than six months. At any time after June 1, 2025, either party may terminate the Alliance Agreement without cause upon sixty days prior written notice to the other party (a "Termination for Convenience"). Upon a Termination for Convenience, the terminating party shall pay to the other party a termination fee in an amount equal to a low double digit percentage of the then remaining Alliance Funding Amount. Termination or expiry of one or more Underlying Agreements does not affect the term of the Alliance Agreement, which will continue to apply to the remaining ongoing Underlying Agreements.

7. Asset Acquisition

In December 2020, the Company entered into the Agreement and Plan of Merger and Reorganization (the "Myst Merger Agreement"), by and among the Company, Flatiron Merger Sub I, Inc. ("Merger Sub"), Flatiron Merger Sub II, LLC ("Merger LLC"), a direct, wholly-owned subsidiary of the Company, Myst Therapeutics, Inc. ("Myst"), and Timothy Langer, the sole common stockholder of Myst ("Langer"). Pursuant to the Myst Merger Agreement, the business combination (the "Merger") was effected in two steps. The first step was the merger of Merger Sub with and into Myst. The second step was the merger of Myst with and into Merger LLC. The Merger closed on December 14, 2020, and the effective date of the Merger was January 20, 2021. As a result of the Merger, the separate existences of Merger Sub and Myst ceased, and Merger LLC became the Company's wholly-owned subsidiary.

Pursuant to the Myst Merger Agreement, on December 15, 2020, the Company paid the former equity holders of Myst, (the "Myst Holders"), a one-time up-front payment of $9.0 million in cash. The Company paid an additional cash consideration of $1.0 million to the Myst Holders on June 14, 2022. The Company also issued Langer up to 5,798,069 shares of the Company's common stock. Of these shares, 2,899,035 shares of the Company's common stock were issued upon the closing of the Merger and the remaining 2,899,034 shares of the Company's common stock were held in escrow with 25% vesting in December of each year that Langer remains an employee of the Company. As of December 31, 2022, Langer is still employed by the Company and 1,499,517 shares of the Company's common stock have vested and been released from escrow, with the remaining 1,449,517 shares of the Company's common stock to be released in equal annual installments over the next two years based on his continued employment. This restricted equity grant is accounted for as a compensatory arrangement under ASC Topic 718, Compensation-Stock Compensation ("ASC 718"), as continued service is required under the agreement.

In addition, under the Myst Merger Agreement, each Myst Holder is entitled to receive certain payments as consideration based on the achievement by the Company of three predefined milestones. The initial milestone is the closing of an initial public offering, which will be triggered by the closing of this offering, the second milestone is the first acceptance by the FDA of an IND filed by, on behalf of or for the benefit of the Company, or the Company's sublicensees for a product being developed by or on behalf of the Company or its sublicensees that is claimed as a product or method of making or using the product by a pending or issued Myst patent claim

existing at the time of such acceptance, and the third milestone is the occurrence of the earlier of (i) the commencement of the first registration study for a product being developed by, on behalf of or for the benefit of the Company that is claimed as a product or a method of making or using the product by an issued Myst patent claim existing as of the time of such commencement or (ii) the issuance of a Myst patent claim that claims a product or method of making or using the product then being developed by, on behalf of or for the benefit of the Company, or its sublicensees, that is or was the subject of a registration study that has or had commenced. The milestones are not contingent on one another, and the milestones do not need to be achieved in any specific order.

Within 45 days of the achievement of the initial milestone, which the closing of this offering triggers, the Company is obligated to pay the Myst Holders an aggregate amount equal to $3.0 million. At the Company's election, the Company may pay this consideration in cash or in shares of the Company's common stock. The fair market value of the Company's common stock measured after this offering, is the volume weighted-average closing price of the Company's common stock on Nasdaq for the consecutive 20 trading day period ending on the last trading day on or prior to the date on which the milestone was earned pursuant to the Myst Merger Agreement.

Within 45 days of the achievement of the second milestone, the Company is obligated to pay the Myst Holders an aggregate amount equal to $10.0 million. At the Company's election, the Company may pay this consideration in cash or in shares of the Company's common stock. In May 2022, this $10.0 million milestone was achieved. The Company elected to pay $5.0 million in the Company's common stock and $5.0 million in cash. Pursuant to a letter agreement dated July 25, 2022 between the Company and the former equityholders of Myst regarding the $10.0 milestone payment that became due and owing to the Myst Holders, the Company agreed to pay to the former optionholders of Myst on or before July 28, 2022 $1.0 million in cash, with the remaining $9.0 payable to Langer as follows: (i) on or before July 28, 2022, $2.2 million in cash, (ii) on or before July 31, 2022, $5.0 million in shares of the Company's common stock and (iii) on or before January 10, 2023, $2.2 million in cash. On June 8, 2022, the Company issued Langer 1,694,915 shares of the Company's common stock to settle the $5.0 million obligation payable in common stock. The Company then paid the Myst Holders $2.8 million in July 2022, with $2.2 million paid to Langer and $0.6 million paid to the remaining Myst Holders, and the remaining $2.2 million was paid to Langer in January 2023.

Within 45 days of the achievement of the third milestone, the Company is obligated to pay the Myst Holders an aggregate amount equal to $20.0 million. At the Company's election, the Company may pay this consideration in cash or in shares of its common stock.

Additionally, the Company assumed an ongoing research and development contract obligation of approximately $1.5 million and committed to spend at least $30.0 million for building out cell therapy infrastructure and continued research and development.

8. Stockholders' Equity

Series A Preferred Stock

From October 2015 to October 2016, the Company issued a total of 11,250,000 shares of series A preferred stock (the "Series A Preferred Stock") at CDN$1.00 per share (equivalent to $0.74 per share, based on a conversion ratio of 1.344 Canadian dollars to one U.S. dollar) for total net proceeds of CDN$ 10.9 million (equivalent to $8.1 million based on a conversion ratio of 1.344 Canadian dollars to one U.S. dollar).

Series B Preferred Stock

In October 2016, the Company issued a total of 16,285,156 shares of series B-1 preferred stock (the "Series B-1 Preferred Stock") at $0.78 per share for total net proceeds of $12.3 million. In November 2018, the Company issued 25,065,538 shares of series B-2 preferred stock (the "Series B-2 Preferred Stock", and together with the Series B-1 Preferred Stock, the "Series B Preferred Stock") at $1.15 per share for total net proceeds of $28.9 million.

Series C Preferred Stock

The Company issued a total of 17,905,288 shares of series C preferred stock (the "Series C Preferred Stock") at $2.35 per share in January 2019 for net proceeds of $41.8 million.

Series D Preferred Stock

The Company issued a total of 29,285,356 shares of series D preferred stock (the "Series D Preferred Stock") at $2.73 per share in June 2021 for net proceeds of $79.8 million.

The rights and preferences of the Preferred Stock as of December 31, 2022, are summarized below, which relate to each of the Series A, Series B, Series C and Series D Preferred Stock unless specified otherwise.

Conversion

The holders of Preferred Stock have the right, at any time and at the holder's discretion, to convert, without payment of any additional consideration, in whole or in part, such holder's Preferred Stock into common stock at the then applicable conversion price, which shall initially be one share of common stock for one share of Preferred Stock. The Preferred Stock will be automatically converted into common stock at the then applicable conversion price, upon the earlier of a qualified initial public offering or the election of a required majority of the holders of Preferred Stock.

Voting

The holders of the Preferred Stock are entitled to vote on any matters on which holders of common stock are entitled to vote, on an as-converted basis. Holders of Preferred Stock and holders of common stock are required to vote together as a single class, except for meetings at which only holders of another specified class of shares are entitled to vote. Each Preferred Stockholder is entitled to such number of votes equal to the number of shares of common stock issuable upon the exercise of any conversion rights attaching to such Preferred Stock at the date of such vote, using the applicable conversion price.

Dividends

The holders of the Series A and Series B Preferred Stock are entitled to receive non-cumulative dividends at the rate of 8% per annum and the holders of the Series C and Series D Preferred Stock are entitled to receive non-cumulative dividends at the rate of 10% per annum when and if declared by the board of directors and in preference to the common stock. After the Preferred dividend is paid, the Preferred Stock participates in any dividend paid to common stock on an as-converted basis (participating). Through December 31, 2022, the Company has not declared or paid dividends and has no present intention of paying any dividends in the foreseeable future.

Liquidation Preference

In the event of a liquidation event, the holders of Preferred Stock are entitled to receive, in preference to the holders of common stock, an amount equal to their initial issue price plus the aggregate of all declared but unpaid dividends and may then participate in the distribution of any residual assets with the common stock on an as-converted basis.

If the amount to distribute is insufficient to pay the liquidation preference in full, then the Preferred Stock receive the distribution ratably in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

Redemption

At the option of the holders of at least a majority of the then outstanding shares of Preferred Stock, consenting or voting together as a single class on an as-converted to Common Stock basis (the "Required Majority"), at any time after June 29, 2026, each holder of Preferred Stock shall be entitled to require the Company to redeem all or any of the outstanding Preferred Stock held by those holders electing at a price equal to the Redemption Price which is defined as initial issue price plus declared but unpaid dividends.

The Company is accreting the carrying value of the Preferred Stock up to the full redemption value over the period from issuance to the earliest redemption date. The Company recorded accretion totaling $0.2 million in 2022 and 2021, respectively. As of December 31, 2022 and 2021, the full redemption value of the Preferred Stock is $170.0 million, respectively. As of December 31, 2022, no shares have been redeemed.

The Company has assessed whether there are any embedded derivatives or beneficial conversion option relating to the preferred stock and determined that none exist.

Anti-Dilution Protection

If the Company issues additional securities without consideration or for consideration per share less than the initial issue price of a series of Preferred Stock (other than certain customary exceptions), then the conversion price for the applicable series of Preferred Stock will be adjusted using a broad-based weighted average anti-dilution formula.

Common Stock

As of December 31, 2022, the Company's certificate of incorporation, as amended and restated, authorized the Company to issue 147,892,358 shares of common stock, $0.001 par value per share. The common stockholders are entitled to receive dividends, in subordination to the Series A, Series B, Series C and Series D Preferred Stock, if and when declared by the board of directors. In the event of dissolution, the common stock ranks in seniority behind the Series A, Series B, Series C and Series D Preferred Stock. The holders of common stock are entitled to one vote for each share held.

Shares of common stock reserved for future issuance, on an as-if-converted basis, as of December 31, 2022 and 2021, consists of the following:

	Year Ended December 31,	
	2022	2021
Series A redeemable convertible preferred stock	11,250,000	11,250,000
Series B-1 redeemable convertible preferred stock	16,285,156	16,285,156
Series B-2 redeemable convertible preferred stock	25,065,538	25,065,538
Series C redeemable convertible preferred stock	17,905,288	17,905,288
Series D redeemable convertible preferred stock	29,285,356	29,285,356
Stock options, issued and outstanding	20,207,473	14,051,688
Common stock, available for future issuance	2,042,213	6,635,563
	122,041,024	120,478,589

9. Equity Based Compensation

2018 Equity Incentive Plan

In December 2018, the Company adopted the 2018 Equity Incentive Plan (the "2018 Plan") which provides for the Company to grant incentive stock options or nonqualified stock options for the purchase of common stock, or

restricted shares or other stock-based awards, to employees, members of the board of directors and consultants of the Company. The Company assumed all of the outstanding options under the amended and restated Equity Incentive Plan of Turnstone Biologics Inc. dated October 1, 2016 (the "Prior Plan") in connection with the corporate reorganization in December 2018. However, there were no changes to the terms of the options requiring modification accounting.

All options granted under the 2018 Plan will have an exercise price, a vesting period determine by the Company's board of directors and ten-year term as determined and approved by the Company's board of directors (the board of directors may delegate authority to one of the boards' committees) at the time of grant. The terms and conditions of the restricted shares are determined by the board of directors at the grant date.

The majority of grants outstanding have been approved with a four-year vesting schedule with 25% vesting after one year and the remainder vesting evenly over the remaining 36 months. The total number of shares of common stock that may be issued under the 2018 Plan was 35,000,000 shares when the 2018 Plan was adopted. As of December 31, 2022, 2,042,213 shares were available to be issued under the 2018 Plan.

A summary of the stock option activity under the 2018 Plan is as follows:

	Number of Shares Underlying Outstanding Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding — December 31, 2020	12,537,708	$ 0.79	6.9	$ 6,299.6
Options granted	2,860,356	$ 1.33		
Options exercised	(771,458)	$ 0.04		
Options canceled/forfeited	(574,918)	$ 0.99		
Outstanding — December 31, 2021	14,051,688	$ 0.91	7.2	$ 6,912
Options granted	7,600,340	$ 1.38		
Options exercised	(490,087)	$ 0.32		
Options canceled/forfeited	(954,468)	$ 0.72		
Outstanding — December 31, 2022	20,207,473	$ 1.11	6.8	$ 5,886
Exercisable — December 31, 2022	9,835,537	0.86	5.4	$ 5,290
Vested and expected to vest — December 31, 2022	20,207,473	$ 1.11	6.8	$ 5,886

The fair value of each stock option granted to employees and directors was estimated on the date of grant using the Black-Scholes option-pricing model, with the following range of assumptions for the years ended December 31, 2022 and 2021:

	Year Ended December 31,	
	2022	2021
Employee Stock Options:		
Risk-free interest rate	1.7-3.6%	0.8-1.1%
Expected term (in years)	5.7-6.0	5.6-6.1
Dividend yield	0%	0%
Volatility	86.3-87.2%	89.8-91.2%
Weighted-average exercise price of stock options granted	$ 1.38	$ 1.33

The expense related to awards granted to employees and directors was $4.4 million and $2.6 million for the years ended December 31, 2022 and 2021, respectively. The weighted-average grant date Black Scholes fair market value of options granted to employees, directors and consultants during the years ended December 31, 2022 and 2021 was $0.99 per share and $1.13 per share, respectively.

Stock-based compensation expense for all stock awards included in the Company's statements of operations as of December 31, 2022 and 2021 are as follows (*in thousands*):

	Year Ended December 31,	
	2022	2021
Research and development	$ 2,167	$ 1,852
General and administrative	2,201	760
Total stock-based compensation	$ 4,368	$ 2,612

As of December 31, 2022, the Company was authorized to issue a total of 147,892,358 shares of common stock and 2,042,213 shares of common stock were available for future grant. As of December 31, 2022, the Company had unrecognized stock-based compensation expense of $8.9 million, related to stock options, which is expected to be recognized over a weighted-average period of 2.7 years.

Restricted Stock

In December 2020, Langer received 5,798,069 shares as payment related to the Myst Merger Agreement. Of the total issued, the Company restricted 2,899,034 shares to vest over a four-year period in equal annual installments. As of December 31, 2022, 1,449,517 shares remain unvested and the Company had $1.8 million in unrecognized stock-based compensation expense related to unvested restricted stock which is expected to be recognized evenly over 2.0 years.

10. Income Taxes

The following table represents the components of net income (loss) before income taxes (*in thousands*):

	Year Ended December 31,	
	2022	2021
Domestic	$ (22,065)	$ (32,658)
Foreign	(8,628)	66,359
Income (loss) before provision for income taxes	$ (30,693)	$ 33,701

The income tax provision consisted of the following for the years ended December 31, 2022 and 2021 (*in thousands*):

	Year Ended December 31,	
	2022	2021
Current:		
Federal	$ 80	$ 96
State taxes	61	336
Deferred:		
Federal	—	—
State	—	—
Total tax provision	$ 141	$ 432

The reconciliation of the expected provision for income tax recovery to the actual provision for income tax expense reported for the years ended December 31, 2022 and 2021 is as follows *(in thousands)*:

	Year Ended December 31,	
	2022	2021
Income (loss) before income taxes	$(30,693)	$33,701
Statutory rate	21%	21%
Expected income tax expenses (recovery)	(6,446)	7,037
Permanent differences	260	138
Foreign rate differential	(462)	3,871
Canada ITC credits	(1,617)	(1,661)
Federal R&D credit	(1,637)	—
Unrecognized tax benefit	22	—
State tax	(2,422)	(569)
Myst transaction	1,877	525
Other	(4)	(1,081)
Change in valuation allowance	10,570	(7,828)
Provision for income taxes (recovery) expenses	$ 141	$ 432

The significant components of the Company's deferred income tax assets as of December 31, 2022 and 2021 are as follows (*in thousands*):

	Year Ended December 31,	
	2022	2021
Deferred tax assets:		
Credits	$ 7,960	$ 4,825
Accruals	108	353
Stock compensation	1,111	506
State taxes	33	15
Right-of-use lease liability	1,319	666
Property and equipment	144	173
Intangibles	16,858	3,308
Tax losses	7,253	4,299
Deferred revenue	5,290	12,918
Total deferred tax assets	$ 40,076	$ 27,063
Deferred tax liability:		
Right-of-use lease asset	$ (1,174)	$ (635)
Property and equipment	(1,665)	(80)
Total deferred tax liability	$ (2,839)	$ (715)
Valuation allowance	(37,237)	(26,348)
Net deferred tax assets	$ —	$ —

As of December 31, 2022, the Company had approximately $2.3 million of U.S. federal and $1.0 million of state net operating loss, or NOL, carryforwards. The Company's U.S. federal NOL carryforwards can be carried forward indefinitely, but use of such carryforwards is limited to 80% of taxable income. If not utilized, the Company's state NOL carryforwards will begin to expire at various dates beginning in 2038.

Furthermore, under Section 382 of the Internal Revenue Code of 1986, the amount of benefits from the Company's NOL carryforwards may be impaired or limited if we incur a cumulative ownership change of more

than 50% over a three-year period. The Company has not conducted an analysis as to whether such a change of ownership has occurred, but if such a change has occurred or occurs in the future, the Company will be limited regarding the amount of NOL carryforwards that can be utilized annually in the future to offset taxable income. Any such annual limitation may significantly reduce the value of the Company's NOL carryforwards before they expire, which could result in greater tax liabilities than the Company would incur in the absence of such a limitation.

The Company has determined that it is not more likely than not that it will realize all of its deferred tax assets, and therefore a valuation allowance has been established against the deferred tax assets for Canadian and U.S. State jurisdictions. The Company files federal and provincial income tax returns in Canada and federal, state and local U.S. Income tax returns.

For the Canadian Entity the Company estimates SR&ED expenditures and claims investment tax credits for income tax purposes based on management's interpretation of the applicable legislation in the Income Tax Act (the "Act") and related provincial legislation. These claims are subject to audit by the tax authorities. In the opinion of management, the treatment of research and development expenditures for income tax purposes is appropriate. Any difference between recorded refundable tax credits and amounts ultimately received is recorded when the amount becomes known.

In the ordinary course of its business for the U.S. entity, the Company incurs costs that, for tax purposes, are determined to be qualified research expenditures within the meaning of IRC §41 and are, therefore, eligible for the Increasing Research Activities credit under IRC §41. The federal Research and Development credit ("R&D Credit") carryforward as of December 31, 2022 is $2.3 million that will expire in 2039, and the California R&D credit carryforward of $1.0 million as of December 31, 2022 has no expiration date.

As of December 31, 2022, the Company has total uncertain tax benefits of $0.8 million related to the R&D credit, of which $0.8 million is recorded as a reduction of the deferred tax asset related credit carryforward. If the uncertain tax benefits were to be recognized, there would be an impact to the effective tax rate. No interest or penalties have been recorded related to the uncertain tax positions. The Company's policy is to include interest and penalties related to uncertain tax benefits as other expense.

The aggregate changes in the balances of the Company's gross unrecognized tax benefits during 2022 were as follows (*in thousands*):

December 31, 2021	$ (72)
Increases in balances related to tax positions taken during a prior period	—
Increases in balances related to tax positions taken during the current period	(785)
Decreases in balances related to tax positions tax during the prior period	—
December 31, 2022	$(857)

It is not expected that there will be a significant change in uncertain tax position in the next 12 months.

The Company is subject to U.S. federal and state income tax as well as to income tax in multiple state jurisdictions. In the normal course of business, the Company is subject to examination by tax authorities. As of the date of the consolidated financial statements, there are no tax examinations in progress. The statute of limitations for tax years ended after December 31, 2019 are open for state and federal tax purposes.

At December 31, 2022, the Canadian Entity had carryforward balances which are available to offset future years' taxable income. At December 31, 2022 the Company had non-refundable investment tax credits amounting to

$7.3 million that begin to expire in 2038 and an SR&ED expenditure pool of $22.2 million that does not expire. During 2022 the Company expects to utilize $0.0 million of non-capital losses and $1.1 million of investment tax credits to offset its 2022 Canada tax liability.

On June 29, 2020, the California governor signed Assembly Bill 85 (“A.B. 85”), which includes several tax measures close a gap in the budget created by the COVID-19 pandemic. The most significant provisions of the bill are (i) the suspension of taxpayers’ ability to deduct net operating losses during tax years 2020, 2021, and 2022; and (ii) the limitation on the amount of tax that can be offset by business credits to $5 million for tax years 2020, 2021, and 2022. For corporate taxpayers, if their income subject to California taxation is less than $1.0 million the suspension does not apply. The Company is not expecting its California net operating loss carryover to be subject to suspension during the 2021 tax year. On February 9, 2022, the California Governor signed Senate Bill 113 “SB 113”. SB 113 removes the suspension of NOL and the limitation on the amount of tax that can be offset by business credits to $5.0 million provisions included in A.B. 85 for the 2022 tax year. Thus, the Company is not expecting its net operating loss carryover to be limited for the tax year ending December 31, 2022.

11. Leases

Operating Leases

The Company leases office space for its corporate headquarters, located in San Diego, California, New York, New York and Ontario, Canada and laboratories throughout Canada. Operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term. In calculating the present value of the lease payments, the Company has elected to utilize its incremental borrowing rate based on the original lease term and not the remaining lease term. The Company determines if an arrangement is a lease by considering whether there is an identified asset and the contract conveys the right to control its use. Leases with an initial term of 12 months or less are not recorded on the balance sheet. The Company’s lease terms may include options to extend or terminate a lease. If the lease includes non-lease components (i.e., common area maintenance) that are paid separately from rent based on actual costs incurred and therefore are not included in the right-of-use asset and lease liability but are reflected as an expense in the period incurred.

In July 2018, the Company entered into a lease agreement for approximately 6,500 square feet of office space in New York, New York. The term of the lease is seven years and three months, starting November 1, 2018. The lease requires the Company to share in prorated expenses and property taxes based upon actual amounts incurred. The lease contains escalating rent clauses which require higher rent payments in future years. In September 2022, the Company made the decision to sublease this space and executed a sublease in November 2022 for the remaining term of the lease. Since the Company is still responsible for making the lease payments, there was no impact to the operating lease liability from the sublease. However, since the sublease payment does not cover the entire lease payment, the carrying value of the operating right of use asset, including leasehold improvements, was analyzed and determined to be impaired resulting in a $0.5 million reduction in the operating right of use asset as of September 2022.

In January 2019, the Company executed an agreement to lease approximately 6,000 square feet of laboratory space at Carleton University in Ontario, Canada. The initial term of the lease is three years and started in November 2019 at a rate of approximately $0.1 million per year. In November 2022 the lease was extended for a one year period with the option to renew for an additional one year term.

In May 2019, the Company entered into a noncancelable operating lease for approximately 9,423 square feet located at 12 York Street, Ontario, Canada. The term of the lease is five years, starting December 1, 2019 and includes one renewal option for a period of five years. The lease requires the Company to share in prorated expenses and property taxes based upon actual amounts incurred. The lease contains escalating rent clauses which require higher rent payments in future years.

In June 2021, the Company entered into a lease agreement for approximately 19,474 square feet of office and laboratory space in San Diego, California. The initial term of the lease is 38 months with one renewal option for a period of three years and commenced in March 2022. The lease requires the Company to share in prorated expenses and property taxes based upon actual amounts incurred. The lease contains escalating rent clauses which require higher rent payments in future years.

The Company recorded rent expense of $2.3 million and $1.2 million for the years ended December 31, 2022 and 2021, respectively. Cash paid for operating lease liabilities was $2.0 million and $0.8 million for the years ended December 31, 2022 and 2021, respectively. The table below summarizes the Company's total lease costs included in its consolidated financial statements, as well as other required quantitative disclosures (*in thousands*).

	Year Ended December 31, 2022
Operating lease cost	$ 1,956
Short-term lease costs	263
Variable leases costs	52
Sublease income	(21)
Total lease cost	$ 2,250

	Year Ended December 31, 2021
Operating lease costs	$ 829
Short-term lease costs	284
Variable leases costs	110
Total lease costs	$ 1,223

The present value assumptions used in calculating the present value of the lease payments were as follows:

	Year Ended December 31, 2022
Weighted-average remaining lease term in years	2.6
Weighted-average discount rate	4.96%

The minimum aggregate future operating lease commitments at December 31, 2022 are as follows (*in thousands*):

	Minimum Lease Payments
2023	$ 2,168
2024	2,131
2025	1,106
2026	101
2027	—
Total undiscounted lease payments	$ 5,506
Less: imputed interest	(339)
Total operating lease liability	5,166
Less: current portion of operating lease liability	(1,961)
Operating lease liability, noncurrent	$ 3,205

12. Net Earnings (Loss) per Share

The following table sets forth the computation of the basic and diluted net loss per share during the years ended December 31, 2022 and 2021 (*in thousands, except share and per share data*):

	Year Ended December 31,	
	2022	2021
Net income (loss)	$ (30,834)	$ 33,269
Less: accretion of Preferred Stock to redemption value	(190)	(190)
Less: undistributed earnings allocable to participating securities	—	(29,600)
Net income (loss) attributable to common stockholders, basic and diluted	$ (31,024)	$ 3,479
Weighted-average number of basic shares used in computing net earnings (loss) per share	19,884,775	17,168,919
Effect of dilutive securities		
Stock options	—	3,844,813
Restricted stock	—	548,277
Weighted-average number of diluted shares used in computing net earnings (loss) per share	19,884,775	21,562,009
Net earnings (loss) per share		
Basic	$ (1.56)	$ 0.20
Diluted	$ (1.56)	$ 0.16

The following outstanding potentially dilutive shares were excluded from the computation of diluted net loss per share attributable to common stockholders for the year ended December 31, 2022, because including them would have been anti-dilutive (on an as-converted basis).

Options to purchase common stock	20,207,473
Redeemable convertible preferred stock	99,791,338
Total	119,998,811

13. Legal Proceedings

The Company is not a party to any material legal matters or claims and does not have contingency reserves established for any litigation liabilities as of December 31, 2022 and 2021.

14. Subsequent Events

The Company evaluated subsequent events through May 12, 2023, which represents the date the consolidated financial statements were issued, for events requiring adjustment to or disclosure in the consolidated financial statements. Except as discussed in the footnotes or below, there are no events that require adjustment to or disclosure in the consolidated financial statements.

Through and including , 2023 (the 25th day after the date of this prospectus), all dealers effecting transactions in the common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

Shares

Common Stock

P R O S P E C T U S

BofA Securities
SVB Securities
Piper Sandler

, 2023

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than the underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the U.S. Securities and Exchange Commission, or SEC, registration fee, the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee and the Nasdaq Global Market fee.

	Amount
SEC Registration fee	$ *
FINRA filing fee	*
Nasdaq Global Market initial listing fee	*
Accountants' fees and expenses	*
Legal fees and expenses	*
Blue Sky fees and expenses	*
Transfer Agent's fees and expenses	*
Printing and engraving expenses	*
Miscellaneous	*
Total expenses	$ *

* To be provided by amendment

Item 14. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

As permitted by the Delaware General Corporation Law, our amended and restated certificate of incorporation, to be in effect immediately following the closing of this offering, and our amended and restated bylaws, to be in effect immediately prior to the closing of this offering, will provide that: (i) we are required to indemnify our directors to the fullest extent permitted by the Delaware General Corporation Law; (ii) we may, in our discretion, indemnify our officers, employees and agents as set forth in the Delaware General Corporation

Law; (iii) we are required, upon satisfaction of certain conditions, to advance all expenses incurred by our directors in connection with certain legal proceedings; (iv) the rights conferred in the bylaws are not exclusive; and (v) we are authorized to enter into indemnification agreements with our directors, officers, employees and agents.

In connection with this offering, we expect to enter into indemnification agreements with each of our directors and executive officers that require us to indemnify them against expenses, judgments, fines, settlements and other amounts that any such person becomes legally obligated to pay (including with respect to a derivative action) in connection with any proceeding, whether actual or threatened, to which such person may be made a party by reason of the fact that such person is or was a director or officer of us or any of our affiliates, provided such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, our best interests. The indemnification agreements will also set forth certain procedures that will apply in the event of a claim for indemnification thereunder. We intend to enter into similar indemnification agreements with our executive officers prior to the completion of this offering. At present, no litigation or proceeding is pending that involves any of our directors or officers regarding which indemnification is sought, nor are we aware of any threatened litigation that may result in claims for indemnification.

We maintain a directors' and officers' liability insurance policy. The policy insures directors and officers against indemnified losses arising from certain wrongful acts in their capacities as directors and officers and reimburses us for those losses for which we have lawfully indemnified the directors and officers. The policy contains various exclusions.

In addition, the underwriting agreement filed as Exhibit 1.1 to this Registration Statement provides for indemnification by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act, or otherwise. Our investors' rights agreement with certain investors also provides for cross-indemnification in connection with the registration of our common stock on behalf of such investors.

Item 15. Recent Sales of Unregistered Securities.

The following list sets forth information regarding all unregistered securities issued by us since January 1, 2020 through the date of the prospectus that is a part of this registration statement:

Issuances of Options to Purchase Common Stock

From January 1, 2020 through the date of this registration statement, we granted under our 2018 Plan, options to purchase an aggregate of 11,546,746 shares of our common stock to employees, consultants and directors, having exercise prices ranging from $1.23 to $1.40 per share.

The offers, sales and issuances of the securities described in the preceding paragraph were deemed to be exempt from registration either under Rule 701 promulgated under the Securities Act, or Rule 701, in that the transactions were under compensatory benefit plans and contracts relating to compensation, or under Section 4(a)(2) of the Securities Act in that the transactions were between an issuer and members of its senior executive management and did not involve any public offering within the meaning of Section 4(a)(2). The recipients of such securities were our employees, directors or consultants and received the securities under our equity incentive plans. Appropriate legends were affixed to the securities issued in these transactions.

Issuances of Common Stock

On June 1, 2022, we issued an aggregate of 732,600 shares of our common stock to Moffitt pursuant to the Alliance Agreement. See "Business—Collaboration Agreements—Moffitt Agreements".

On June 1, 2023, we issued an aggregate of shares of our common stock to Moffitt pursuant to the Alliance Agreement. See "Business—Collaboration Agreements—Moffitt Agreements".

The offers, sales and issuances of the securities described in the preceding paragraphs were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D promulgated thereunder as a transaction by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof. Each of the recipients of securities in these transactions was either an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act or had adequate access, through employment, business or other relationships, to information about us. Appropriate legends were affixed to the securities issued in these transactions.

Issuances of Convertible Preferred Stock

On June 29, 2021, we issued an aggregate of 29,285,356 shares of our Series D preferred stock at a purchase price of $2.73174 per share for aggregate gross proceeds of $79,999,978.48 to 23 accredited investors.

The offers, sales and issuances of the securities described in the preceding paragraphs were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D promulgated thereunder as a transaction by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was either an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act or had adequate access, through employment, business or other relationships, to information about us. Appropriate legends were affixed to the securities issued in these transactions.

Item 16. Exhibits and Financial Statement Schedules.

The exhibits to the registration statement are listed below. Financial statement schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Exhibit Number	Description of Exhibit
1.1†	Form of Underwriting Agreement
2.1¥	Agreement and Plan of Merger and Reorganization, dated December 11, 2020, between Turnstone Biologics Corp., Flatiron Merger Sub I, Inc., Flatiron Merger Sub II, LLC, Myst Therapeutics, Inc. and Timothy Langer
3.1	Second Amended and Restated Certificate of Incorporation of Turnstone Biologics Corp. (as currently in effect)
3.2	Bylaws of Turnstone Biologics Corp. (as currently in effect)
3.3†	Form of Amended and Restated Certificate of Incorporation of Turnstone Biologics Corp. (to be effective immediately following the closing of this offering)
3.4†	Form of Amended and Restated Bylaws of Turnstone Biologics Corp. (to be effective immediately prior to the closing of this offering)
4.1†	Specimen Stock Certificate evidencing the shares of common stock
5.1†	Opinion of Cooley LLP
10.1+	Amended and Restated Equity Incentive Plan and Forms of Option Agreement and Exercise Notice thereunder
10.2+	2018 Equity Incentive Plan and Forms of Option Agreement and Exercise Notice thereunder
10.3†+	2023 Equity Incentive Plan and Forms of Option Agreement and Exercise Notice thereunder

Exhibit Number	Description of Exhibit
10.4†+	Turnstone Biologics Corp. 2023 Employee Stock Purchase Plan
10.5†+	Turnstone Biologics Corp. 2023 Non-Employee Director Compensation Policy
10.6†+	Form of Indemnification Agreement between Turnstone Biologics Corp. and each of its directors and executive officers
10.7#	Amended and Restated Master Collaboration Agreement, dated January 1, 2021, between Turnstone Biologics Corp. and H. Lee Moffitt Cancer Center and Research Institute, Inc.
10.8#	Life Science Alliance Agreement, dated June 1, 2022, by and between H. Lee Moffitt Cancer Center and Research Institute, Inc. and Turnstone Biologics Cop.
10.9	Lease, dated June 23, 2021, between Turnstone Biologics Corp. and BMR-Athena LP.
10.10+#	Employment Offer Letter, dated August 20, 2015, between Turnstone Biologics Inc. and Sammy Farah, M.B.A., Ph.D.
10.11+#	Employment Offer Letter, dated December 13, 2021, between Turnstone Biologics Corp. and Venkat Ramanan, Ph.D.
10.12+#	Employment Offer Letter, dated May 7, 2021, between Turnstone Biologics Corp. and Stewart Abbot, Ph.D.
10.13+¥#	Employment Offer Letter, dated September 18, 2019, between Turnstone Biologics Inc. and Saryah Azmat
10.14+#	Employment Offer Letter, dated July 16, 2021, between Turnstone Biologics Corp. and P. Joseph Campisi, Jr.
10.15+	Executive Director Offer Letter, dated April 30, 2021, between Turnstone Biologics Corp. and Michael Burgess, MBChB, Ph.D.
10.16+#	Employment Offer Letter, dated February 22, 2022, between Turnstone Biologics Corp. and Michael Burgess, MBChB, Ph.D.
10.17+#	Employment Offer Letter, dated March 1, 2023, between Turnstone Biologics Corp. and Vijay Chiruvolu, Ph.D.
21.1	Subsidiaries of Turnstone Biologics Corp.
23.1†	Consent of Ernst & Young LLP, independent registered public accounting firm.
23.2†	Consent of Cooley LLP (included in Exhibit 5.1).
24.1†	Power of Attorney (see signature page).

+ Indicates management contract or compensatory plan.
† To be filed by amendment.
¥ Schedules have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Registrant undertakes to furnish supplemental copies of any of the omitted schedules upon request by the SEC.
Pursuant to Item 601(b)(10) of Regulation S-K, portions of this exhibit have been omitted (indicated by "[***]") as the registrant has determined that the omitted information (i) is not material and (ii) the type of information that the registrant customarily and actually treats as private or confidential.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser. Insofar as indemnification for liabilities arising under

the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in San Diego, California on this day of , 2023.

TURNSTONE BIOLOGICS CORP.

By: _____
Sammy Farah, M.B.A., Ph.D.
President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Sammy Farah, M.B.A., Ph.D., and Venkat Ramanan, Ph.D., and each of them, his true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement on Form S-1 has been signed by the following persons in the capacities held on the dates indicated.

Signature	Title	Date
Sammy Farah, M.B.A., Ph.D.	President, Chief Executive Officer and Director (*Principal Executive Officer*)	, 2023
Venkat Ramanan, Ph.D.	Chief Financial Officer (*Principal Financial Officer and Principal Accounting Officer*)	, 2023
Michael Burgess, MBChB, Ph.D.	Interim Chief Medical Officer and Director	, 2023
Jerel Davis, Ph.D.	Director	, 2023
Robert Gould, Ph.D.	Director	, 2023
Rishi Gupta	Director	, 2023
Stefan Larson, Ph.D.	Director	, 2023
Patrick Machado	Director	, 2023
Santhosh Palani	Director	, 2023
Kanya Rajangam	Director	, 2023

Exhibit 2.1

Execution
CONFIDENTIAL

AGREEMENT AND PLAN OF MERGER AND REORGANIZATION

dated as of December 11, 2020

by and among

TURNSTONE BIOLOGICS CORP.,

FLATIRON MERGER SUB I, INC.,

FLATIRON MERGER SUB II, LLC,

MYST THERAPEUTICS, INC.,

and

TIMOTHY LANGER,

solely in his capacity as EQUITYHOLDERS REPRESENTATIVE

TABLE OF CONTENTS

EXHIBITS

AGREEMENT AND PLAN OF MERGER AND REORGANIZATION

THIS AGREEMENT AND PLAN OF MERGER AND REORGANIZATION (this "Agreement") is made and entered into as of December 11, 2020 by and among (i) Turnstone Biologics Corp., a Delaware corporation ("Parent"); (ii) Flatiron Merger Sub I, Inc., a Delaware corporation and a direct, wholly owned subsidiary of Parent ("Merger Sub"); (iii) Flatiron Merger Sub II, LLC, a Delaware limited liability company and a direct, wholly owned subsidiary of Parent ("Merger LLC"); (iv) Myst Therapeutics, Inc., a Delaware corporation (the "Company"); and (v) Timothy Langer, solely in his capacity as the representative, agent and attorney-in-fact of the Equityholders (the "Equityholders Representative"), but solely with respect to the provisions expressly applicable to the Equityholders Representative as set forth herein (each, a "Party" and collectively the "Parties").

WHEREAS, Parent, Merger Sub, Merger LLC and the Company wish to effect a business combination, on the terms and conditions set forth in this Agreement and in accordance with Delaware Law, in two steps, with the first step being a merger of Merger Sub with and into the Company, pursuant to which each share of Company Capital Stock issued and outstanding immediately prior to the Effective Time, other than shares owned or held directly or indirectly by Parent or the Company and other than Dissenting Shares, shall be converted into the right to receive the consideration set forth in this Agreement (the "First-Step"), with the Company to be the surviving corporation of the First-Step, and with the second step being a merger of the Company with and into Merger LLC (the "Second-Step" and, together with the First-Step, the "Merger"), with Merger LLC to be the surviving company of the Second-Step.

WHEREAS, it is intended that the First-Step be mutually interdependent with and a condition precedent to the Second-Step and that the Second-Step shall be effected as soon as practicable after the First-Step without further approval, authorization or direction from or by any of the parties hereto.

WHEREAS, for U.S. federal income Tax purposes, the First-Step and the Second-Step are intended to be integrated steps, and are intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code, and this Agreement shall constitute a "plan of reorganization" within the meaning of Treasury Regulations section 1.368-2(g).

WHEREAS, the board of directors of the Company has unanimously (i) approved this Agreement, the First-Step and the other transactions contemplated by this Agreement in accordance with applicable Laws, (ii) declared that this Agreement, the First-Step and the other transactions contemplated by this Agreement are advisable and in the best interests of the Company and its stockholders, and (iii) adopted a resolution directing that the adoption of this Agreement and approval of the First-Step be submitted to the Company's stockholders for consideration and recommending that all of the Company's stockholders adopt this Agreement and approve the First-Step.

WHEREAS, (i) the respective boards of directors or managers of Parent, Merger Sub and Merger LLC have each determined that the Merger, upon the terms and subject to the conditions set forth in this Agreement, is advisable and in the best interests of their respective stockholders or unitholders, and such boards of directors or managers, as applicable, have approved the Merger, upon the terms and subject to the conditions set forth in this Agreement and (ii) Parent, as sole stockholder of Merger Sub and sole holder of membership interests of Merger LLC, will, immediately following the execution and delivery of this Agreement, adopt this Agreement and approve the Merger).

WHEREAS, Parent, Merger Sub, Merger LLC and the Company desire to make certain representations, warranties, covenants and agreements in connection with the transactions contemplated by this Agreement and also prescribe various conditions to the transactions contemplated by this Agreement.

WHEREAS, on the date of this Agreement, immediately following the execution and delivery of this Agreement, the Company will solicit a written consent adopting this Agreement and approving the transactions contemplated hereby, including the Merger, in the form of Exhibit A, from the Sole Stockholder of the Company including one hundred percent (100%) of the outstanding shares of the Company Common Stock (the "Company Stockholder Approval").

WHEREAS, contemporaneously with the execution and delivery of this Agreement, and as a condition and inducement to Parent's willingness to enter into this Agreement, the Sole Stockholder is entering into a joinder and release agreement with Parent in the form of Exhibit B (the "Joinder and Release Agreement").

WHEREAS, contemporaneously with the execution and delivery of this Agreement, and as a condition and inducement to Parent's willingness to enter into this Agreement, the Sole Stockholder is entering into a non-competition and non-solicitation agreement in the form of Exhibit C (the "Non-Competition and Non-Solicitation Agreements") to be effective upon the Closing.

WHEREAS, contemporaneously with the execution and delivery of this Agreement, and as a condition and inducement to Parent's willingness to enter into this Agreement, the Key Employee is entering into an offer letter and related employment documentation with Parent (the "Offer Letter") to be effective upon the Closing.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants, promises and agreements hereinafter set forth, the mutual benefits to be gained by the performance thereof, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and accepted, the Parties to this Agreement, intending to be legally bound, hereby agree as follows:

ARTICLE I
DEFINITIONS

Section 1.1 Certain Definitions. As used in this Agreement, the following terms shall have the following respective meanings:

"Accredited Equityholders" means (a) the Equityholders identified as such on the Consideration Spreadsheet except for any Equityholder listed thereon that Parent notifies Company prior to the Closing Date is being removed because Parent has not received evidence reasonably satisfactory to it that the Equityholder is an "accredited investor," as such term is defined in Rule 501(a) of the Securities Act, (b) any other Equityholder that executes and delivers to Company or Parent after the date of this Agreement an Accredited Investor Questionnaire that indicates that such Equityholder is an accredited investor and that Parent in its sole discretion determines is, in fact, an "accredited investor" and (c) any other Equityholder that Parent in its sole discretion determines is an "accredited investor" (as such term is defined in Rule 501(a) under the Securities Act) without having received such a questionnaire.

"Accredited Investor Questionnaire" means an investor questionnaire in the form of Exhibit D.

"Action" means any claim, action, suit, litigation, proceeding, arbitral action, mediation, governmental audit, enforcement, inquiry, examination, investigation or criminal prosecution or investigation.

"Affiliate" means, when used with respect to a specified Person, another Person that either directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, the specified Person. For purposes of this definition, "control" means the possession, directly or indirectly, of the power to direct, or cause the direction of, the management and affairs of a Person, whether through the ownership of voting securities, by Contract or otherwise, and "controlled" and "controlling" shall have correlative meanings.

"Aggregate Exercise Price" means the sum of the exercise prices for all Company Options with respect to the Option Shares represented thereby, in each case that are outstanding and unexercised as of immediately prior to the Effective Time.

"Aggregate Merger Consideration" means the (a) Merger Consideration, plus (b) the Parent Initial Share Consideration.

"Aggregate Option Additional Payment Amount" means the product of (a) the quotient of (i) Nine Million Nine Hundred Thousand Dollars ($9,900,000), divided by (ii) the Fully Diluted Common Number multiplied by (b) the aggregate number of shares of Company Capital Stock issuable upon exercise in full of all Option Shares subject to Company Options that are outstanding and unexercised as of immediately prior to the Effective Time.

"Aggregate Option Delayed Payment Amount" means the product of (a) the quotient of (i) Nine Million Nine Hundred Thousand Dollars ($9,900,000) divided by (ii) the Fully Diluted Common Number multiplied by (b) the aggregate number of shares of Company Capital Stock issuable upon exercise in full of all Option Shares subject to Company Options that are outstanding and unexercised as of immediately prior to the Effective Time.

"Ancillary Document" means any agreement, certificate or other document executed at or prior to the Closing in connection herewith.

"Base Cash Consideration" means Ten Million Dollars ($10,000,000).

"Base Share Consideration" means 5,798,069 Parent Shares.

"Business" means the business and operations of the Company.

"Business Day" means any day that is not a Saturday, Sunday or other day on which banks are required or authorized by Law to be closed in New York, New York or Los Angeles, California.

"Capital Stock Payment" means the conversion and payments made to the holders of Company Capital Stock pursuant to Section 2.6(b).

"CARES Act" means the Coronavirus Aid, Relief, and Economic Security Act (Public Law 116-136), signed into law on March 27, 2020.

"Cash" means cash and Cash Equivalents determined in accordance with GAAP, using, to the extent consistent therewith, the policies, conventions, methodologies and procedures used by the Company in preparing its most recent unaudited Company Financial Statements. For the avoidance of doubt, (a) Cash shall be increased by the amount of deposits or other payments received by the Company but not yet credited to the bank accounts of the Company, and (b) Cash shall be reduced by the amount of any outstanding checks or other payments issued by the Company but not yet deducted from the bank accounts of the Company.

"Cash Equivalents" means investment securities with original maturities of ninety (90) days or less.

"Cause" means the Surviving Company's reasonable determination that any of the following have occurred: (i) any material breach by the applicable Equityholder of any agreement between such Equityholder and the Parent or one of its Subsidiaries that results in a material adverse effect to the Parent or Subsidiary party to such agreement; (ii) persistent negligence in the performance of, or persistent failure to perform, the applicable Equityholder's services to the Parent or one of its Subsidiaries, which negligence or failure, as applicable, is not cured within thirty (30) days following written notice by the Parent; (iii) conviction of or plea of *nolo contendere* to a felony or other crime involving moral turpitude or that would reasonably be expected to have a material adverse effect on the business or affairs of the Parent or any Subsidiary; (iv) commission of any act of dishonesty, fraud, theft or embezzlement breach of fiduciary duty, against the Parent or any Subsidiary; or (v) conduct by the applicable Equityholder that has, or would reasonably be expected to have, a material adverse effect on the business, reputation or affairs of the Parent or any Subsidiary. For the avoidance of doubt, any disagreement amongst the members of the Integration Committee acting in their capacities as such, including regarding the Operational Plan, shall not be deemed to be "Cause".

"Closing Cash" means the aggregate amount of all Cash and Cash Equivalents of the Company as of 12:01 a.m. Pacific Time on the Closing Date; provided, that in not event shall Closing Cash exceed Two Hundred Fifty Thousand Dollars ($250,000).

"Closing Debt" means the aggregate amount of all Debt of the Company as of 12:00:01 a.m. Pacific Time on the Closing Date, including any amounts outstanding under the PPP Loan.

"Closing Net Working Capital Amount" means the Net Working Capital Amount of the Company as of 12:00:01 a.m. Pacific Time on the Closing Date.

"Code" means the Internal Revenue Code of 1986, as amended.

"Company Benefit Plan" means (a) each "employee benefit plan" as defined in Section 3(3) of ERISA, whether or not subject to ERISA, (b) any compensation, employment, consulting, end of service or severance, termination protection, change in control, transaction bonus, retention or similar plan, agreement, arrangement, program or policy; or (c) any other benefit or compensation plan, Contract, policy or arrangement providing for pension, retirement, profit-sharing, deferred compensation, stock option, equity or equity-linked compensation, stock purchase, employee stock ownership, tax gross-up, vacation, holiday pay or other paid time off, bonus or other incentive plans, medical, retiree medical, vision, dental or other health plans, life insurance plans, and other employee benefit plans, welfare plans or fringe benefit plans, in each case whether or not written, and (A) that is sponsored, maintained, administered, contributed to or entered into by the Company or any of its ERISA Affiliates, (B) under which any current or former director, officer, employee or individual independent contractor of the Company or any of its Subsidiaries is eligible to receive benefits or otherwise participate, or (C) for which the Company or any of its ERISA Affiliates has any direct or indirect Liability (whether actual or contingent).

"Company Capital Stock" means the Company Common Stock.

"Company Common Stock" means the common stock, with a par value of $0.00001, of the Company.

"Company Convertible Notes" means those certain convertible notes issued by the Company, in aggregate principal amount of Three Million Fifty Thousand Dollars ($3,050,000).

"Company Employee" means each employee of the Company.

"Company Fundamental Representations" means the representations and warranties of the Company contained in Section 4.1 (Corporate Status), Section 4.2 (Authority), Section 4.3(a)(i) (No Conflict), Section 4.4 (Capitalization), Section 4.7 (Taxes), Section 4.18 (Finder's Fees) and Section 4.19 (Affiliate Transactions).

"Company Intellectual Property" means any and all Intellectual Property in which the Company has the right to practice or exploit, either exclusively or non-exclusively, through ownership or in-license as of the date hereof, or a potential in-license under negotiation by the Company as of the date hereof but only if the Company completes such negotiation and obtains such in-license within nine (9) months after the date hereof.

"Company Key Representations" means the representations and warranties of the Company contained in Section 4.13 (Intellectual Property), Section 4.20 (Privacy and Information Security) and Section 4.21 (Regulatory Matters).

"Company Options" means all outstanding options to purchase or otherwise acquire shares of Company Common Stock, whether vested or unvested, and whether granted pursuant to the Company Plan or otherwise.

"Company Owned Intellectual Property" means all Intellectual Property (i) owned or purported to be owned by the Company, or (ii) exclusively licensed or purportedly to be exclusively licensed to the Company.

"Company Plan" means the 2019 Stock Plan, as amended.

"Company Patent Claim" means (a) any claim of an issued and unexpired Patent that is set forth on Exhibit O and has not been permanently revoked or declared unenforceable or invalid by an unreversed and unappealable or unreversed and unappealed decision of a court or other appropriate body of competent jurisdiction as of the applicable time (as set forth in the Second Milestone and Third Milestone, as applicable); or (b) any claim of a pending patent application that is set forth on Exhibit O and has not been pending for more than seven (7) years since its first priority date as of the applicable time (as set forth in the Second Milestone and Third Milestone, as applicable), which claim shall be in the form existing in such patent application as of the applicable time (as set forth in the Second Milestone and Third Milestone, as applicable).

"Company Products" means any products currently owned, commercialized or being developed by the Company as of the Closing Date.

"Confidentiality Agreement" means that certain Confidentiality Agreement, dated as of June 15, 2020, by and between the Company and Parent.

"Contingent Merger Consideration" means (i) Initial Earnout Consideration, (ii) the Second Earnout Consideration, and (iii) the Third Earnout Consideration.

"Contract" means any contract, agreement, indenture, note, bond, loan, instrument, lease, conditional sales contract or mortgage.

"Convertible Noteholder" means each holder of a Company Convertible Note.

"Damages" means any liabilities, losses, damages, injury, Taxes, penalties, fines, deficiencies, assessments, judgments, costs or expenses (including reasonable attorneys' fees and expenses and costs of investigation).

"Debt" means both the current and long-term portions of any amount owed, without duplication, in respect of (i) borrowed money, extensions of credit, purchase money financing, and capitalized lease obligations or for the deferred purchase price of property or services, (ii) all obligations for the reimbursement of any obligor for amounts drawn on any outstanding letters of credit, (iii) all obligations evidenced by a note, bond, debenture or similar instrument, including the Convertible Notes, (iv) deferred compensation owed to current or former employees of the Company, (v) all unpaid Tax liabilities of the Company attributable to any Pre-Closing Tax Period accrued in accordance with the Company's ordinary course methods of determining its Taxes as of the Closing Date (unless otherwise required by applicable Law), and (vi) all accrued and unpaid interest, fees, expenses, prepayment penalties or premiums on, or any guarantees or other contingent liabilities with respect to, any of the obligations referred to in the foregoing clauses (i) through (v); *provided, however,* that notwithstanding the foregoing, Debt shall not be deemed to include any accounts payable incurred in the ordinary course of business or any obligations under un-drawn letters of credit. For the avoidance of doubt, "Debt" shall not include the payment obligations set forth on Schedule A hereto.

"Deferred Payroll Taxes" means the "applicable employment taxes" (as defined in Section 2302(d) of the CARES Act) payable by the Company that (x) relate to the portion of the "payroll tax deferral period" (as defined in Section 2302(d) of the CARES Act) that occurs prior to the Closing and (y) are payable following the Closing as permitted by Section 2302(a) of the CARES Act, calculated without giving effect to any Tax credits afforded under the CARES Act, the Families First Coronavirus Response Act or any similar applicable federal, state or local law to reduce the amount of any such Taxes payable or owed.

"Delaware Law" means the DGCL and the DLLCA, as applicable.

"Delayed Cash Consideration" means One Million Dollars ($1,000,000).

"Delayed Merger Consideration" means the Delayed Cash Consideration and the Parent Delayed Share Consideration.

"DGCL" means the General Corporation Law of the State of Delaware.

"DLLCA" means the Delaware Limited Liability Company Act.

"Employee Option" means each Company Option that was granted to the holder in the holder's capacity as, or that has had vesting tied to the holder's performance of services as, a Service Provider who is or was an employee of the Company for applicable employment Tax purposes.

"Encumbrance" means any security interest, pledge, mortgage, lien, charge, restriction on transfer (such as a right of first refusal or other similar rights) or other similar encumbrance.

"Environmental Law" means any applicable federal, state, or local Laws as in effect as of the date of this Agreement which regulate or relate to: pollution, the protection of the environment; the use, treatment, storage, transportation, handling, disposal or release of Hazardous Materials, or the protection of the health and safety of Persons from exposures to Hazardous Materials in the environment; or the preservation or protection of waterways, groundwater, drinking water, air, or soil.

"Equityholder" means any holder of (i) Company Capital Stock that is entitled to receive a Capital Stock Payment under Section 2.6 and that has not perfected its appraisal rights pursuant to Section 3.2, and (ii) Company Options that is entitled to receive Option Consideration under Section 2.6.

"Equityholder Indemnitees" means (i) the Equityholders; (ii) the Equityholders' Affiliates; (iii) the respective representatives of the Persons referred to in clauses (i) and (ii); and (iv) the respective successors and permitted assigns of the Persons referred to in clauses (i), (ii) and (iii) above.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended.

"ERISA Affiliate" means any employer that would be considered a single employer with the Company under Sections 414(b), (c), (m), or (o) of the Code.

"Estimated Initial Merger Consideration" means a dollar amount equal to (i) the Initial Merger Cash Consideration, plus (ii) the Estimated Net Working Capital Surplus, if any, minus (iii) the Estimated Closing Debt, minus (iv) the Estimated Unpaid Company Transaction Expenses, minus (v) the Estimated Net Working Capital Deficit, if any, minus (vi) the Reserve Fund.

"Estimated Per Share Initial Merger Cash Consideration" means the positive number, equal to the quotient of (i) the Estimated Initial Merger Consideration, plus the Aggregate Exercise Price, divided by (ii) the Fully Diluted Common Number.

"Exchange Act" means the U.S. Securities Exchange Act of 1934, as amended.

"FDA" means the U.S. Food and Drug Administration.

"Fraud" means common law fraud under Delaware law with the specific intent to deceive.

"Fully Diluted Common Number" shall equal (i) the aggregate number of shares of Company Common Stock issued and outstanding immediately prior to the Effective Time, plus (ii) the aggregate number of shares of Company Common Stock issuable upon the exercise in full of all Option Shares subject to Company Options that are outstanding and unexercised as of immediately prior to the Effective Time, and less (iii) the aggregate number of shares of Company Common Stock, if any, to be canceled at the Effective Time pursuant to Section 2.6(a).

"GAAP" means generally accepted accounting principles in the United States.

"Good Faith Advance" means the Five Hundred Thousand Dollars ($500,000) paid by Parent to Company on or about September 23, 2020.

"Governmental Authority" means any government, any quasi-governmental authority of any nature, any governmental entity, commission, board, agency or instrumentality, and any court, tribunal or judicial body, whether federal, state, county, local or foreign.

"Governmental Order" means any order, temporary restraining order, judgment, injunction or decree, enforcement action or consent decree, issued, promulgated or entered by any Governmental Authority.

"Hazardous Material" means any pollutant, chemical, substance and any toxic, infectious, carcinogenic, reactive, corrosive, ignitable or flammable chemical, or chemical compound, or hazardous substance, material or waste, whether solid, liquid or gas, that is prohibited or regulated under any Environmental Laws, including without limitation, asbestos, urea, formaldehyde, PCBs, radon gas, or petroleum products.

"Health Care Laws" means all Laws, manuals, policies and guidance enforced or issued by a Governmental Authority related to the manufacturing, development, testing, labeling, marketing, packaging, holding, import, export, advertising or distribution of medical device products, kickbacks, patient or program charges, recordkeeping, documentation requirements, referrals, the hiring of employees or acquisition of services or supplies from those who have been excluded from government health care programs, quality, safety, privacy, security, or licensure, including, without limitation: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. §§ 301 et seq.) and the regulations promulgated thereunder; (ii) the Public Health Service Act (42 U.S.C. § 201 et seq.); (iii) all applicable federal, state, local and all applicable foreign health care related fraud and abuse, false claims, and anti-kickback Laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)), the U.S. Physician Payment Sunshine Act (42 U.S.C. § 1320a-7h), the U.S. Civil False Claims Act (31 U.S.C. § 3729 et seq.), the criminal False Statements Law (42 U.S.C. § 1320a-7b(a)), all criminal Laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. §§ 286 and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. § 1320d et seq.) as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. § 17921 et seq.) (collectively, "HIPAA"), the exclusion Law (42 U.S.C. § 1320a-7), and the civil monetary penalties Law (42 U.S.C. § 1320a-7a); (iv) HIPAA and analogous state Laws pertaining to privacy, data protection and information security, and the regulations promulgated pursuant to such statutes; (v) Medicare (Title XVIII of the Social Security Act) and (vi) Medicaid (Title XIX of the Social Security Act), each as amended from time to time the regulations promulgated pursuant to such Laws.

"IND" means an Investigational New Drug Application request for the authorization by the FDA to administer an investigational drug to humans in a clinical trial.

"Initial Earnout Consideration" means an amount equal to Three Million Dollars ($3,000,000).

"Initial Merger Consideration" means a dollar amount equal to (i) the Initial Merger Cash Consideration, plus (ii) the Net Working Capital Surplus, if any, minus (iii) Unpaid Company Transaction Expenses, minus (iv) Closing Debt, minus (v) the Net Working Capital Deficit, if any, minus (vi) the Reserve Fund.

"Initial Merger Cash Consideration" means a dollar amount equal to (i) the Base Cash Consideration, minus (ii) the Delayed Cash Consideration, minus (iii) the Good Faith Advance.

"Initial Milestone" means the initial Public Offering.

"Integration Committee" means a committee consisting of two members, one of whom shall be appointed by the Equityholders Representative from time to time and shall initially be Timothy Langer and the second of whom shall be appointed by Parent from time to time and shall initially be Sammy Farah.

"Intellectual Property" means all U.S. and foreign intellectual property and proprietary rights, including (i) patents provisional and non-provisional and applications therefor and all divisionals, reissues, renewals, registrations, confirmations, re-examinations, certificates of inventorship, extensions, supplementary protection certificates, continuations and continuations-in-part thereof ("Patents"), (ii) trademarks, trade dress, service marks, service names, trade names, domain names, brand names, logo or business symbols, whether registered or unregistered, and pending applications to register the same, including all extensions and renewals thereof and all goodwill associated therewith ("Trademarks"), (iii) copyrights and copyrightable works, including all writing, reports, analyses, evaluation protocols, designs, computer software, code, databases, software systems, mask works or other works, whether registered or unregistered, pending applications to register the same, and moral rights ("Copyrights"), (iv) confidential or proprietary know-how, trade secrets, methods, processes, practices, formulas and techniques ("Know-How"), (v) computer software, including all source code, object code, firmware, development tools, files, records and data, all media on which any of the foregoing is recorded, and all documentation related to any of the foregoing, (vi) moral rights, rights of publicity, industrial designs, and industrial property rights and (vii) the right to sue for past, present and future infringement, misappropriation, dilution or violation of any of the foregoing or for any injury to goodwill and to recover all proceeds relating to any of the foregoing, including licenses, royalties, income, payments, claims, Damages (including without limitation attorneys' fees and expert fees) and proceeds of suit.

"IRS" means the United States Internal Revenue Service.

"Key Employee" means Timothy Langer.

"Knowledge of the Company" "Company's Knowledge" or "known to the Company" and any other phrases of similar import means, with respect to any matter in question relating to the Company, the actual knowledge of Timothy Langer and George Smith and the knowledge such individuals would reasonably be expected to have had he made reasonable due inquiry of his direct subordinates, reports or the Company's intellectual property counsel regarding the relevant matters.

"Law" means any federal, state, county, local, foreign or other statute, constitution, principle of common law, law, ordinance, edict, decree, Governmental Order, regulation, rule, ruling or code of any Governmental Authority.

"Liability" means any and all Debts, liabilities and obligations of any kind or nature, whether accrued or fixed, absolute or contingent, matured or unmatured, or determined or determinable.

"Lock Up Agreement" means a lock-up, holdback or similar agreements required to be executed by similarly situated stockholders by the underwriter(s) managing Parent's initial Public Offering and a subsequent Public Offering within the 180 day period after the initial Public Offering, in each case with such modifications and exceptions as may be approved by the Parent or holders of Parent Shares; provided, in no event, shall the restricted period under such agreement exceed 180 days.

"Market Value" means as of any date of determination (i) if Parent has completed its initial Public Offering the volume weighted average closing price of the Parent Shares on the applicable stock exchange for the consecutive 20 trading day period ending on the last trading day on or prior to the date on which the applicable Contingent Merger Consideration was earned pursuant to this Agreement and (ii) if Parent has not completed its initial Public Offering, the quotient equal to (A) the fair market value of all of the issued and outstanding shares of Parent Shares as set in the most recent offering of Parent Shares or other securities convertible into or exchangeable for Parent Shares to third party investors, divided by (B) the number of Parent Shares outstanding as of such date of determination.

"Material Adverse Effect" means any change, event, circumstance, condition or effect that, individually or in the aggregate, is, or would reasonably be expected to be, materially adverse to (x) the Business, assets, liabilities, results of operations or condition (financial or otherwise) of the Company, or (y) the ability of the Company to consummate the transactions contemplated hereby; *provided, however,* that for purposes of clause (x), a "Material Adverse Effect" shall not include any event, occurrence, fact, condition or change to the extent arising out of or attributable to: (i) conditions generally affecting the economy or industry in which the Company operates, (ii) any change in any Law or GAAP (*provided*, that this clause (ii) shall not apply with respect to any representation or warranty the purpose of which is to address compliance with GAAP or applicable Law) (iii) acts of war, armed hostilities or terrorism, acts of God or comparable events, epidemic, pandemic or disease outbreak (including the COVID-19 virus) or any worsening of the foregoing, or any declaration of martial law, quarantine or similar directive, policy or guidance or Law or other action by any Governmental Authority in response thereto, (iv) changes in financial, banking or securities markets, (v) resulting from the announcement of this Agreement or the pendency of the Merger, or (vi) any action specifically required to be taken by this Agreement; except in each case with respect to clauses (i) through (v), to the extent that such changes disproportionately adversely affect the Company in relation to similarly situated businesses engaged in the same industry as the Company.

"Merger Consideration" means (i) the Initial Merger Consideration, plus (ii) the Delayed Merger Consideration, plus (ii) the Contingent Merger Consideration.

"Milestones" shall mean the Initial Milestone, the Second Milestone and the Third Milestone.

"Net Working Capital Amount" (which can be positive or negative) means: (A) the sum of all of the assets of the Company properly characterized as current assets (including Closing Cash but excluding Tax assets); minus (B) the sum of all of the liabilities of the Company properly characterized as current liabilities (excluding Tax liabilities, any amount included in the Closing Debt, Unpaid Company Transaction Expenses and the payment obligations set forth on Schedule A hereto), in each case determined as of 12:00:01 a.m. Pacific Time on the Closing Date in accordance with GAAP and using the policies, conventions, methodologies and procedures used by the Company in preparing its most recent unaudited Company Financial Statements (to the extent consistent with GAAP). For illustrative purposes only, attached as Schedule 1.01(n) is a sample calculation of the Net Working Capital Amount as of October 31, 2020 (as if the Closing Date occurred on such date).

"Net Working Capital Deficit" means the amount, if any, by which the Closing Net Working Capital Amount exceeds the Estimated Net Working Capital Amount.

"Net Working Capital Surplus" means the amount, if any, by which the Estimated Net Working Capital Amount exceeds the Closing Net Working Capital Amount.

"Non-Employee Option" means each Company Option which is not an Employee Option.

"Operational Plan" means the development and operating plan for the cell therapy activities at Parent and the Surviving Corporation, including the SoCo Infrastructure, to be developed as soon as practicable following Closing, but in no event later than 60 days following Closing, by the Integration Committee and as may thereafter be updated and modified by the Parent from time to time.

"Outstanding Common Number" shall equal (i) the aggregate number of shares of Company Common Stock issued and outstanding immediately prior to the Effective Time, less (ii) the aggregate number of shares of Company Common Stock, if any, to be canceled at the Effective Time pursuant to Section 2.6(a).

"Organizational Documents" means, with respect to any entity, the certificate of incorporation, articles of incorporation, bylaws or equivalent governing documents of such entity.

"Parachute Payment Waiver" means, with respect to any Person, a written agreement waiving such Person's right to receive any "parachute payments" (within the meaning of Section 280G of the Code and the Department of Treasury regulations promulgated thereunder) to the extent required to avoid the imposition of a tax under Section 280G of the Code and to accept in substitution therefor the right to receive such payments only if approved by the shareholders of the Company in a manner that is intended to comply with Section 280G(b)(5)(B) of the Code.

"Parent Delayed Share Consideration**"** means the Base Share Consideration minus the Parent Initial Share Consideration; provided, that, if at any time or from time to time prior to the fourth anniversary of the Closing, there is any change in the capital structure of the Parent by way of a stock split, stock dividend, combination or reclassification a proportionate appropriate adjustment shall be made to the number of Parent Shares constituting Parent Delayed Share Consideration.

"Parent Fundamental Representations" means the representations and warranties of Parent, Merger Sub and Merger LLC contained in Section 5.1 (Corporate Status), Section 5.2 (Authority), Section 5.5 (Finder's Fees), Section 5.7 (Parent Capitalization) and Section 5.10 (Cash Resources).

"Parent Indemnitees" means (i) Parent; (ii) Parent's Affiliates (including the Surviving Corporation and the Surviving Company); (iii) the respective representatives of the Persons referred to in clauses (i) and (ii); and (iv) the respective successors and permitted assigns of the Persons referred to in clauses (i), (ii) and (iii) above.

"Parent Initial Share Consideration" means 2,899,035 Parent Shares.

"Parent Shares" means shares of the Parent's common stock, par value $0.001.

"Per Option Additional Payment Amount" means the quotient of (i) the Aggregate Option Additional Payment Amount, divided by (ii) the aggregate number of shares of Company Common Stock issuable upon the exercise in full of all Option Shares subject to Company Options that are outstanding and unexercised as of immediately prior to the Effective Time.

"Per Option Delayed Payment Amount" means the quotient of (i) the Aggregate Option Delayed Payment Amount, divided by (ii) the aggregate number of shares of Company Common Stock issuable upon the exercise in full of all Option Shares subject to Company Options that are outstanding and unexercised as of immediately prior to the Effective Time.

"Per Share Additional Deduct Amount" means the quotient of (i) the Aggregate Option Additional Payment Amount, divided by (ii) the Outstanding Common Number.

"Per Share Delayed Cash Consideration" means the quotient of (i) Delayed Cash Consideration, divided by (ii) the Fully Diluted Common Number.

"Per Share Delayed Deduct Amount" means the quotient of (i) the Aggregate Option Delayed Payment Amount, divided by (ii) the Outstanding Common Number.

"Per Share Delayed Share Consideration" means the quotient of (i) Parent Delayed Share Consideration, divided by (ii) the Outstanding Common Number.

"Per Share Earnout Amounts" means the (i) Per Share Initial Earnout Payment Amount, (ii) the Per Share Second Earnout Payment Amount, and (iii) the Per Share Third Earnout Payment Amount.

"Per Share Excess Payment" means, the quotient of (i) the amount of any Excess Payment determined pursuant to Section 2.7(d)(ii), if any, divided by (ii) the Fully Diluted Common Number.

"Per Share Initial Earnout Payment Amount" means the quotient of (i) the Initial Earnout Consideration, divided by (ii) the Fully Diluted Common Number.

"Per Share Initial Merger Cash Consideration" means the quotient of (i) the Initial Merger Cash Consideration plus the Aggregate Exercise Price, divided by (ii) the Fully Diluted Common Number.

"Per Share Initial Share Consideration" means the quotient of (i) Parent Initial Share Consideration, divided by (ii) the Outstanding Common Number.

"Per Share Reserve Fund Release Amount" means the quotient of (i) the remaining balance of the Reserve Fund upon completion by the Equityholders Representative of its duties hereunder, divided by (ii) the Fully Diluted Common Number.

"Per Share Second Earnout Payment Amount" means the quotient of (i) the Second Earnout Consideration, divided by (ii) the Fully Diluted Common Number.

"Per Share Third Earnout Payment Amount" means the quotient of (i) the Third Earnout Consideration, divided by (ii) the Fully Diluted Common Number.

"Permit" means any license, clearance, authorization, registration, approval, consent, certificate, variance, franchise, exemption or permit issued by any Governmental Authority to the Company, held by the Company, or required for the operation of the Company's Business.

"Permitted Encumbrances" means all (i) liens for Taxes and other governmental charges that (A) are not yet due and payable or (B) are being contested in good faith by appropriate proceedings and for which adequate reserve has been made in the Company Financial Statements; (ii) cashiers', landlords', workmen's, repairmen's, warehousemen's and carriers' liens and other similar liens imposed by Law, incurred in the ordinary course of business for sums not yet due and payable; (iii) pledges or deposits in connection with workers compensation, unemployment insurance and other social security legislation for sums not yet due and payable; (iv) Encumbrances listed in Schedule 1.01(p); and (v) other Encumbrances of any type incurred in the ordinary course of business which do not materially detract from the value of, or materially interfere with, the present use and enjoyment of the asset or property subject thereto or affected thereby.

"Person" means any individual, general or limited partnership, firm, corporation, limited liability company, association, trust, unincorporated organization or other entity.

"Personal Data" means all data or information that, individually or when aggregated or combined, is linked to any reasonably identifiable individual and any other data protected under any applicable Laws relating to individuals' privacy, data security, or data protection.

"PPP Loan" means Company's loan under the Paycheck Protection Program as the loan program set forth in sections 1101, 1102 and 1106 of the Coronavirus Aid, Relief, and Economic Security Act.

"Pre-Closing Taxes" means, without duplication, (A) all Taxes of the Company relating or attributable to any Pre-Closing Tax Period (including any Deferred Payroll Taxes) and assuming that expenses funded with the PPP Loan will not be deductible, (B) all Taxes of any member of an affiliated, consolidated, combined or unitary group of which the Company is or was a member on or prior to the Closing Date, including pursuant to Treasury Regulation Section 1.1502-6 (or any analogous provision under state, local or non-U.S. Law), (C) any and all Taxes of any Person imposed on the Company as a transferee or successor, by Contract or pursuant to any Law, rule, or regulation, which Taxes relate to an event or transaction occurring before the Closing, and (D) any Taxes resulting from the transactions contemplated by this Agreement (but excluding the Transfer Taxes allocated to Parent pursuant to Section 6.8(c)). Notwithstanding anything to the contrary herein, Pre-Closing Taxes shall not include any Taxes arising from actions by Parent or its Affiliates (including the Surviving Corporation and the Surviving Company) on the Closing Date after the Closing that are outside the ordinary course of business of the Company or any of the Subsidiaries (other than any transaction explicitly contemplated by this Agreement). In the case of any Straddle Tax Period, the amount of any Taxes based on or measured by income, sales, use, receipts, or other similar items of the Company for the Pre-Closing Tax Period shall be determined based on an interim closing of the books as of the close of business on the Closing Date (except that exceptions, allowances or deductions that are calculated on annual basis, such as depreciation, shall be apportioned on a pro rata basis), and the amount of any other Taxes of the Company for such a Tax period which relate to the Pre-Closing Tax Period shall be deemed to be the amount of such Tax for the entire taxable period multiplied by a fraction the numerator of which is the number of days in the taxable period ending on the (and including) Closing Date and the denominator of which is the total number of days in such taxable period.

"Pre-Closing Tax Period" means any Tax period ending on or before the Closing Date and the portion of any Straddle Tax Period ending on (and including) the Closing Date.

"Public Offering" means (i) any sale or distribution by Parent to the public of Parent Shares or other securities convertible into or exchangeable for Parent Shares pursuant to a Registration Statement, (ii) Parent's initial listing of Parent Shares or other securities convertible into or exchangeable for Parent Shares on a national securities exchange in connection with the effectiveness of a Registration Statement on Form S-1 filed by Parent or (iii) Parent's completion of a merger or consolidation with a special purpose acquisition company or its subsidiary pursuant to an effective Registration Statement after which the common stock (or similar securities) of the surviving or parent entity are publicly traded.

"Registrable Securities" means (i) Parent Shares issued in connection with the Closing pursuant to this Agreement as part of the Initial Merger Consideration and (ii) Parent Shares issued after the Closing pursuant to this Agreement as part of the Delayed Merger Consideration or Contingent Merger Consideration, as applicable; *provided*, *however*, that Parent Shares shall cease to be Registrable Securities hereunder if and when (A) such Registrable Securities have been sold, transferred or otherwise disposed of pursuant to an effective registration statement registering such Registrable Securities under the Securities Act, (B) such Registrable Securities have been sold, transferred or otherwise disposed of pursuant to Rule 144 of the Securities Act ("Rule 144") or (C) with respect to the Registrable Securities held by a particular Equityholder, such Equityholder holds a number of Registrable Securities less than the number of Parent Shares that can be sold by such Equityholder in a single 90-day period pursuant to Rule 144 (including Rule 144(e)).

"Registration Statement" means any one or more registration statements of Parent filed under the Securities Act that covers the sale and/or resale of any Parent Shares, amendments and supplements to such Registration Statements, including post-effective amendments, all exhibits and all material incorporated by reference or deemed to be incorporated by reference in such Registration Statements.

"Registration Study" means a clinical trial in humans that is designed (as of the time the clinical trial is initiated) to obtain sufficient data and results to support the filing of an application for marketing approval by the FDA.

"Representatives" mean the officers, directors, employees, agents, attorneys, accountants, advisors and representatives of the specified Person.

"Reserve Fund" means $150,000.

"Resignation for Good Reason" means a separation as a result of the applicable Equityholder's resignation after one of the following conditions has come into existence without such Equityholder's consent: (i) a material diminution in such Equityholder's base salary (except in connection with across-the-board reductions and that is proportionate to reductions in base salary for the Parent's similarly situated employees or consultants); (ii) a material diminution by Parent in such Equityholder's duties, authority, and responsibilities within the Parent or its Subsidiaries (*provided, however,* that a change in job position (including a change in title) shall not be deemed a "material diminution" in and of itself unless Equityholder's new duties, authorities and responsibilities are materially reduced from the prior duties, authorities and responsibilities); or (iii) the relocation of such Equityholder's principal place of employment outside of the State of California with a requirement that Equityholder regularly physically be present at such principal place of employment in person; provided, however, that in each case, Resignation for Good Reason shall in no event exist unless the applicable Equityholder have given written notice to the Parent or the applicable Subsidiary within sixty (60) days of the initial existence of the event(s) giving rise to such Resignation for Good Reason, including specific details regarding such event(s) and unless the Parent or the applicable Subsidiary has thereafter failed to cure such event(s) within thirty (30) days after delivery of such written notice.

"Right of First Refusal and Co-Sale Agreement" means the Amended and Restated Right of First Refusal and Co-Sale Agreement, dated January 4, 2019, between Parent and certain stockholders of Parent, as amended from time to time.

"SEC" means the United States Securities and Exchange Commission.

"Second Earnout Consideration" means an amount equal to Ten Million Dollars ($10,000,000).

"Second Milestone" means the first acceptance by FDA of an IND filed by, on behalf of or for the benefit of the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s) for a product being developed by or on behalf of the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s) that is claimed as a product or a method of making or using the product by an issued or pending Company Patent Claim existing at the time of such acceptance. For the avoidance of doubt, for purposes of the foregoing definition a trial initiated and sponsored by a third party (e.g. H. Lee Moffitt Cancer Center and Research Institute, Inc. ("Moffitt")) at the request of the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s) would qualify as a trial conducted for the "benefit of" the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s).

"Securities Act" means the Securities Act of 1933, as amended, or any successor federal statute thereto and the rules and regulations of the SEC promulgated thereunder.

"Service Provider" means any current or former officer, employee, director or independent contractor of the Company.

"Sole Stockholder" means Timothy Langer, a resident of the State of California and the sole stockholder of the Company.

"Straddle Tax Period" means any Tax period beginning before or on the Closing Date and ending after the Closing Date.

An entity shall be deemed to be a "Subsidiary" of another entity if such other entity directly or indirectly owns, beneficially or of record, (i) an amount of voting securities or other interests in such first entity that is sufficient to enable such other entity to elect at least a majority of the members of such first entity's board of directors or other governing body, or (ii) at least a majority of the outstanding equity interests of such first entity.

"Targeted Net Working Capital Amount" means an amount equal to zero dollars ($0).

"Tax" or "Taxes" means (i) any and all taxes, fees, imposts, charges, excises, assessments, levies, tariffs, duties or other charges or impositions in the nature of (or similar to) a tax (together with any all interest, penalties, additions to tax and additional amounts imposed with respect thereto) imposed by any Governmental Authority, including income, gross income, estimated, capital gains, gross receipts, profits, business, license, occupation, franchise, branch, windfall, termination, exit, capital stock or other equity, wealth, real or personal (tangible or intangible) property, real or personal property (tangible or intangible) gains, sales, use, transfer, conveyance, recording, documentary, filing, value added, ad valorem, employment or unemployment, social security (or similar including FICA), social, disability, alternative or add-on minimum, investment, financial transaction, escheat obligation, customs, excise, stamp, environmental, commercial rent, premium or withholding taxes, and (ii) any liability for the payment of amounts described in clause "(i)" as a result of being or having been a member of any group of corporations that files, will file, or has filed Tax Returns on a combined, consolidated or unitary basis, as a result of any obligation under any agreement or arrangement (including any Tax allocation, Tax indemnity or Tax sharing agreement), as a result of being a transferee or successor, or otherwise by operation of Law.

"Tax Proceeding" means any inquiry, claim, assessment, audit, dispute, suit or other administrative or judicial proceeding involving Taxes.

"Tax Return" means any return, report, statement, declaration, schedule, designation, notice, certificate, questionnaire, form, election, estimated Tax filing, claim for refund, information return, or other document (including any attachments thereto and amendments thereof), in each case filed with or submitted to, or required to be filed with or submitted to, any Governmental Authority with respect to any Tax.

"Third Earnout Consideration" means an amount equal to Twenty Million Dollars ($20,000,000).

"Third Milestone" means the earlier of: (a) the commencement of the first Registration Study (i.e., the dosing of the first patient in such Registration Study) for a product being developed by, on behalf or for the benefit of the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s) that is claimed as a product or a method of making or using the product by an issued Company Patent Claim existing as of the time of such commencement, or, as the case may be, (b) the issuance of a Company Patent Claim that claims a product or method of making or using the product then being developed by, on behalf or for the benefit of the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s) that is or was the subject of a Registration Study that has or had commenced. For the avoidance of doubt, for purposes of the foregoing definition a trial initiated and sponsored by a third party (e.g. Moffitt) at the request of the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s) would qualify as a trial conducted for the "benefit of" the Surviving Company, its Affiliate(s) or its (or their) sublicensee(s).

"Total Consideration" means all amounts paid in cash or Parent Shares (valued at the Market Value as of the time of payment) by Parent pursuant to this Agreement.

"Transaction Documents" means this Agreement, the Joinder and Release Agreement, the Non-Competition and Non-Solicitation Agreement, together with the other agreements, instruments, documents and certificates delivered in connection herewith or therewith.

"Transfer Taxes" means any and all transfer, documentary, conveyance, sales, use, gross receipts, stamp, registration, filing, value added, recording, escrow and other similar Taxes and fees (including any penalties and interest and additions to tax), including any real property or leasehold interest transfer or gains Tax and any similar Tax.

"Unpaid Company Transaction Expenses" means (i) the fees and disbursements payable by the Company to those Persons identified in Section 4.18 of the Company Disclosure Schedule; (ii) the fees and disbursements payable to legal counsel or accountants of the Company that are payable by the Company in connection with the transactions contemplated by this Agreement; (iii) any bonus, transaction, change of control, severance, incentive compensation, termination, retention or similar transaction-related payments to be paid to any Service Provider of the Company or any Subsidiary, as well as the employer portion of any payroll Taxes to be paid in connection therewith, including any such amounts that are contingent upon both consummation of the transactions contemplated hereby and the termination of employment (or the occurrence of other double-trigger events) occurring after the Closing; (iv) the employer portion of any payroll Taxes relating to or resulting from the payment of any portion of the amounts payable to holders of Company Options pursuant to Section 2.6(d)(i)A); (v) any fees, costs or expenses payable by the Company to the Equityholders Representative after the Closing; and (vi) all other miscellaneous fees, expenses or costs, in each case, incurred by the Company in connection with the transactions contemplated by this Agreement (including the cost of the D&O "tail" policy referenced in Section 6.6); *provided*, that in the case of the foregoing clauses (i) through (vi), (a) only to the extent such amounts have not been paid by the Company prior to the Closing, or (b) to the extent not otherwise accounted for in the calculation of Net Working Capital Amount as a reduction to such amount; *provided, further*, that the foregoing clauses (ii) and (iii) shall not include any fees, expenses or disbursements incurred by Parent, or by the Surviving Corporation or the Surviving Company which are on behalf of Parent, including any advisory fee and the fees and expenses of Parent's attorneys, accountants and other advisors.

"Valid Patent Rights" means any claims of an issued and unexpired Patent that is included within the Company Intellectual Property and has not been permanently revoked or declared unenforceable or invalid by an unreversed and unappealable or unreversed and unappealed decision of a court or other appropriate body of competent jurisdiction as of the Closing.

"Voting Agreement" means the Amended and Restated Voting Agreement, dated January 4, 2019, between Parent and certain stockholders of Parent, as amended from time to time.

Section 1.2 Certain Additional Definitions. As used in this Agreement, the following terms shall have the respective meanings ascribed thereto in the respective sections of this Agreement set forth opposite each such term below:

Term	Section
Accounting Firm	Section 2.7(c)(iv)
Agreement	Preamble
Budget Commitment	Section 2.8(b)
Certificate of Merger	Section 2.4
CGCL	Section 3.2(a)
Change in the Company Recommendation	Section 6.4(b)
Claim Certificate	Section 9.4(a)
Claim Dispute Notice	Section 9.4(b)
Closing	Section 2.3
Closing Date	Section 2.3
Closing Date Schedule	Section 2.7(b)
Company	Preamble
Company Board of Directors	Section 4.2(a)
Company Board Recommendation	Section 4.2(b)
Company Certificates	Section 2.6(b)(ii)
Company Disclosure Schedule	Article IV
Company Financial Statements	Section 4.5(a)
Company Indemnified Parties	Section 6.6(a)
Company Material Contract(s)	Section 4.14(a)
Company Stockholder Approval	Recitals
Consideration Spreadsheet	Section 6.12
Continuing Employee	Section 6.13(a)
Determination	Section 2.7(c)(iv)
Dispute Notice	Section 2.7(c)(ii)
Dissenting Shares	Section 3.2(a)
Effective Time	Section 2.4
Effectiveness Period	Section 2.9(d)
Employee Options Payment Amount	Section 3.1(a)(iii)
Enforceability Exceptions	Section 4.2(a)
Equityholders Representative	Recitals
Estimated Closing Debt	Section 2.7(a)
Estimated Net Working Capital Amount	Section 2.7(a)
Estimated Net Working Capital Deficit	Section 2.7(a)
Estimated Net Working Capital Surplus	Section 2.7(a)
Estimated Unpaid Company Transaction Expenses	Section 2.7(a)
Excess Payment	Section 2.7(d)(ii)
Expiration Date	Section 9.1
FCPA	Section 4.22(a)
Holder of Registrable Securities	Section 2.9(g)
Indemnitee	Section 9.5
Indemnitor	Section 9.5
Invoice	Section 6.10
Joinder and Release Agreement	Recitals
Lease	Section 4.15
Leased Real Property	Section 4.15
Letter of Transmittal	Section 3.1(b)(i)
Liens	Section 4.11(e)
Major Suppliers	Section 4.23
Material Product and Trial Information	Section 4.21(g)
Merger	Recitals

Term	Section
Merger Sub	Preamble
New Plans	Section 6.13(b) 6.13(b)
Non-Competition and Non-Solicitation Agreements	Recitals
Non-Solicitation Agreement	Recitals
Offer Letter	Recitals
Option Cancellation Agreement	Section 3.1(a)(iii)
Option Consideration	Section 2.6(d)(i)
Option Payment	Section 2.6(d)(i)
Option Shares	Section 2.6(d)(i)
Optionholder	Section 2.6(d)(i)
Optionholder Deliverables	Section 3.1(b)(ii)B
Options Payment Amount	Section 2.6(d)(i)
Outside Date	Section 8.1(d)
Parent	Preamble
Parent Acquisition	Section 2.8(c)(ii)
Parent Disclosure Schedule	Article V
Parent Prepared Returns	Section 6.8
Party and Parties	Preamble
Paying Agent	Section 3.1(a)(i)
Payment Fund	Section 3.1(a)(ii)
Payoff Letter	Section 6.10
Pre-Closing Period	Section 6.1(a)
Proceeding	Section 4.11(a)
Prospectus	Section 2.9
Prospectus Supplement	Section 2.9
Registration Statement	Section 2.9
Related Person	Section 4.19
Reserve Fund	Section 3.3
Review Board	Section 4.21(e)
Review Period	Section 2.7(c)(ii)
Safety Notices	Section 4.21(f)
Section 280G Approval	Section 6.7(b)
Section 280G Soliciting Materials	Section 6.7(c)
Shortfall Payment	Section 2.7(d)(i)
SoCo Infrastructure	Section 2.8(b)(ii)
Surviving Corporation	Section 2.1
Termination Note	Section 8.2
Third-Party Claim	Section 9.5
Threshold	Section 9.3(b)
WARN Act	Section 4.12(d)
Written Consent	Section 6.4(b)

ARTICLE II
THE MERGER

Section 2.1 The Merger.

(a) Upon the terms and subject to the conditions of this Agreement, and in accordance with the DGCL, in the First-Step, Merger Sub shall be merged with and into the Company at the Effective Time. Following the First-Step, the separate corporate existence of Merger Sub shall cease, and the Company shall continue as the surviving corporation (the "Surviving Corporation") and shall succeed to and assume all the rights and obligations of Merger Sub in accordance with the DGCL.

(b) Upon the terms and subject to the conditions of this Agreement, and in accordance with the DLLCA, in the Second-Step Merger, the Company shall be merged with and into Merger LLC at the Second Effective Time. Following the Second-Step Merger, the separate corporate existence of the Company shall cease, and Merger LLC shall continue as the surviving company (the "Surviving Company") and shall succeed to and assume all the rights and obligations of the Company in accordance with the DLLCA.

Section 2.2 Effects of the Merger. At and after the Effective Time, the First-Step shall have the effects set forth in the DGCL, this Agreement and the First-Step Certificate of Merger (as defined below). At and after the Second Effective Time, the Second-Step shall have the effects set forth in the DLLCA, this Agreement and the Second-Step Certificate of Merger (as defined below).

Section 2.3 Closing. The closing of the First-Step (the "Closing") shall take place at 9:00 a.m. (Eastern time) and shall be conducted remotely via the electronic exchange of documents and signatures as soon as reasonably practicable, but no later than three (3) Business Days following/on this date of this Agreement subject to the satisfaction or waiver of all conditions set forth in Article VII (other than those conditions that by their terms are to be satisfied at the Closing, but subject to their satisfaction at the Closing), or at such other time, date and place as Parent and the Company may mutually agree in writing (such date hereinafter, the "Closing Date").

Section 2.4 Effective Time.

(a) Immediately following the Closing, Parent and the Company shall cause to be filed with the Secretary of State of the State of Delaware a properly executed certificate of merger for the First-Step conforming to the requirements of the DGCL and in the form attached hereto as Exhibit E-1 executed in accordance with the relevant provisions of the DGCL (the "First-Step Certificate of Merger"). The First-Step shall become effective when the First-Step Certificate of Merger is accepted for recording by the Secretary of State of the State of Delaware or at such later time as may be mutually agreed upon by Parent and the Company and set forth in the First-Step Certificate of Merger (the date and time the First-Step becomes effective being the "Effective Time").

(b) As promptly as practicable after the Effective Time, but in any event within three (3) Business Days thereafter, Merger LLC shall duly execute a certificate of merger substantially in the form attached hereto as Exhibit E-2 (the "Second-Step Certificate of Merger") and file such Second-Step Certificate of Merger with the Secretary of State of the State of Delaware in accordance with the DLLCA. The Second-Step shall become effective when the Second-Step Certificate of Merger is accepted for recording by the Secretary of State of the State of Delaware, or at such subsequent time as Parent shall specify in the Second-Step Certificate of Merger (the date and time the Second-Step becomes effective being the "Second Effective Time").

Section 2.5 Organizational Documents; Directors and Officers.

(a) At the Effective Time and without any further action on the part of the Company or Merger Sub, the Surviving Corporation's certificate of incorporation shall be amended and restated to read in its entirety as set forth in the Certificate of Merger. The bylaws of the Surviving Corporation shall be amended and restated in its entirety to read the same as the bylaws of Merger Sub as in effect immediately prior to the Effective Time, until thereafter changed or amended as provided therein or by the certificate of incorporation of the Surviving Corporation and applicable Law; *provided*, that such bylaws shall reflect as of the Effective Time "Myst Therapeutics, Inc." as the name of the Surviving Corporation.

(b) The certificate of formation of Merger LLC, as in effect immediately prior to the Second Effective Time, shall be the certificate of formation of the Surviving Company at the Second Effective Time, until thereafter amended as provided by Law and by the terms of such certificate of formation. At the Second Effective Time, the limited liability company agreement of Merger LLC, as in effect immediately prior to the Second Effective Time, shall be the limited liability company agreement of the Surviving Company at the Second Effective Time. Notwithstanding the foregoing, the name of the Surviving Company shall be "Myst Therapeutics, LLC" and the certificate of formation and limited liability company agreement of the Surviving Company shall so provide.

(c) The directors of Merger Sub immediately prior to the Effective Time shall be the directors of the Surviving Corporation as of the Effective Time, until the earlier of their resignation or removal or otherwise ceasing to be a director or until their respective successors are duly elected and qualified, as the case may be. The managers of Merger LLC immediately prior to the Second Effective Time shall be the directors of the Surviving Company as of the Second Effective Time, until the earlier of their resignation or removal or otherwise ceasing to be a manager or until their respective successors are duly elected and qualified, as the case may be.

(d) The officers of Merger Sub immediately prior to the Effective Time shall be the officers of the Surviving Corporation as of the Effective Time, until the earlier of their resignation or removal or otherwise ceasing to be an officer or until their respective successors are duly elected and qualified, as the case may be. The officers of Merger LLC immediately prior to the Second Effective Time shall be the officers of the Surviving Company as of the Second Effective Time, until the earlier of their resignation or removal or otherwise ceasing to be an officer or until their respective successors are duly elected and qualified, as the case may be.

Section 2.6 Conversion of Securities; Treatment of Company Options. At the Effective Time, by virtue of the Merger and without any action on the part of the holder of any shares of Company Capital Stock, any shares of capital stock of Merger Sub or any holders of membership interest of Merger LLC:

(a) Cancellation of Certain Shares. Each share of Company Capital Stock that is held in the treasury of the Company and each share of Company Capital Stock owned by Parent, Merger Sub or any other wholly owned subsidiary of Parent shall be canceled and retired and no consideration shall be delivered in exchange therefor.

(b) Conversion of Company Capital Stock. Subject to Section 2.7, Section 2.8, Article III and Article IX,

(i) Company Common Stock. Each share of Company Common Stock (other than shares of Company Capital Stock to be canceled in accordance with Section 2.6(a) and other than Dissenting Shares) shall be converted at the Effective Time into the right to receive, in consideration of such cancellation, without interest:

A. (1) an amount in cash equal to (x) the Estimated Per Share Initial Merger Cash Consideration, less(y) the Per Share Additional Deduct Amount, plus (2) a number of Parent Shares equal to the Per Share Initial Share Consideration, plus (3) subject to Section 2.8(a)(iii), a number of Parent Shares equal to the Per Share Delayed Share Consideration, which shall be issued and outstanding and held in escrow unless and until released in accordance with Section 2.8(a)(iii), plus

B. On the eighteenth (18th) month anniversary of the Closing Date (the "Holdback Release Date"), an amount in cash equal to the Per Share Delayed Cash Consideration, less the Per Share Delayed Deduct Amount ;

C. In each case when, if and to the extent payable hereunder, (1) an amount in cash or Parent Shares pursuant to Section 2.8(f) equal to the Per Share Initial Earnout Payment Amount, if any, plus (2) an amount in cash or Parent Shares pursuant to Section 2.8(f) equal to the Per Share Second Earnout Payment Amount, if any, plus (3) an amount in cash or Parent Shares pursuant to Section 2.8(f) equal to the Per Share Third Earnout Payment Amount, if any, plus (4) an amount in cash equal to the Per Share Excess Payment, if any, plus (5) an amount in cash equal to the Per Share Reserve Fund Release Amount with respect to any amounts released to the Equityholders from the Reserve Fund from time to time pursuant to the terms of this Agreement, if any.

(ii) No Further Ownership Rights of Equityholders. All such shares of Company Capital Stock, when so converted, shall no longer be outstanding and shall automatically be canceled and retired and shall cease to exist, and each holder of a certificate or certificates which immediately prior to the Effective Time represented such shares of Company Capital Stock (the "Company Certificates") shall thereafter cease to have any rights with respect thereto, except the right to receive the Capital Stock Payment payable in respect of such Company Certificates following the surrender of such Company Certificates in accordance with the provisions of Section 3.1. Any amount of cash each Equityholder is entitled to receive for the shares of Company Capital Stock held by such Equityholder pursuant to this Section 2.6(b) shall be rounded to the nearest whole cent.

(c) Merger Sub. Each issued and outstanding share of the capital stock of Merger Sub shall be converted into and become as of the Effective Time one (1) fully paid and nonassessable share of common stock, par value $0.001 per share, of the Surviving Corporation. At the Second Effective Time, each share of common stock of the Surviving Corporation issued and outstanding immediately prior to the Second Effective Time shall be cancelled and extinguished without any conversion thereof and each membership interest of Merger LLC issued and outstanding immediately prior to the Second Effective Time shall continue to evidence ownership of such interests of the Surviving Company.

(d) Treatment of Company Options. Each Company Option that is outstanding as of immediately prior to the Effective Time, whether vested or unvested, shall fully vest and be canceled at the Effective Time in exchange for the consideration described in clause (i) below, and, following the Effective Time, the Company Options shall no longer be exercisable by the holder thereof and shall only entitle the former holder thereof to the payment of the Option Consideration. At the Effective Time, the Company Plan shall be terminated and no further Company Options shall be granted thereunder. Any Option Consideration each Optionholder is entitled to receive pursuant to this Section 2.6(b)(i) shall be rounded to the nearest whole cent.

(i) Subject to Section 2.7, Section 2.8, Article III and Article IX, each former holder of any such canceled Company Option (each, an "Optionholder") shall be entitled to receive, without interest and subject to any applicable withholding Tax, in consideration of the cancellation of the shares of Company Common Stock subject to such Company Option (such shares, the "Option Shares"):

A. (1) an amount in cash equal to the product obtained by multiplying (I) the number of Option Shares subject to the Company Option by (II) the excess, if any, of (x) the Estimated Per Share Initial Merger Cash Consideration, less (y) the exercise price per share of Company Common Stock of such Company Option (such amount, an "Option Payment" and, in the aggregate, with all such Option Payments, the "Options Payment Amount"), plus (2) an amount in cash equal to the product obtained by multiplying (I) the number of Option Shares subject to the Company Option by (II) the Per Option Additional Payment Amount, plus

B. On or within thirty (30) days following the Holdback Release Date, (1) an amount in cash equal to the product of (1) the number of Option Shares subject to the Company Options, multiplied by (2) the Per Share Delayed Cash Consideration, plus , (2) an amount in cash equal to the product of (1) the number of Option Shares subject to the Company Options, multiplied by (2) the Per Option Delayed Payment Amount, plus

C. in each case when, if and to the extent payable hereunder, (1) an amount in cash pursuant to Section 2.8(f), equal to the product obtained by multiplying the number of Option Shares subject to the Company Option by the Per Share Initial Earnout Payment Amount, if any, plus (2) an amount in cash pursuant to Section 2.8(f), equal to the product obtained by multiplying the number of Option Shares subject to the Company Option by the Per Share Second Earnout Payment Amount, if any, plus (3) an amount in cash pursuant to Section 2.8(f), equal to the product obtained by multiplying the number of Option Shares subject to the Company Option by the Per Share Third Earnout Payment Amount, if any, plus (4) an amount in cash, equal to the product obtained by multiplying the number of Option Shares subject to the Company Option by the Per Share Excess Payment, if any; plus (5) an amount in cash, equal to the product obtained by multiplying the number of Option Shares subject to the Company Option by the Per Share Reserve Fund Release Amount with respect to any amounts released to the Equityholders from the Reserve Fund from time to time pursuant to the terms of this Agreement, if any.

D. The aggregate amount of consideration described in the foregoing clauses A, B, and C shall be referred to herein as the "Option Consideration". Notwithstanding anything to the contrary herein, no Option Consideration shall be paid following the fifth anniversary of the Closing Date and any Option Consideration that otherwise would become payable following such anniversary pursuant to this Agreement instead shall be forfeited by the former holders of Company Options without consideration therefor and shall be paid instead to the other Equityholders based on their pro rata portion of the Fully Diluted Common Number, after excluding the Company Options from such calculation, provided, that if such portion of the Option Consideration remains subject to a substantial risk of forfeiture for purposes of Section 409A of the Code as of such fifth anniversary date, such amounts shall not be forfeited and shall be paid to the applicable former holders of Company Options as soon as reasonably practicable after such substantial risk of forfeiture lapses, but in no event later than March 15 of the year following the year in which such substantial risk of forfeiture lapses.

(ii) Prior to the Effective Time, the Company shall take any actions necessary or appropriate to effect the transactions contemplated under this Section 2.6(d) under the Company Plan and all agreements evidencing Company Options and to ensure that all Company Options shall be canceled and terminated as of the Effective Time.

Section 2.7 Post-Closing Purchase Price Adjustment.

(a) Pre-Closing Estimate. Not later than two (2) Business Days before the Closing Date, the Company shall deliver to Parent and the Equityholders Representative, the Company's estimates, along with reasonable supporting detail thereof, of the Closing Debt (the "Estimated Closing Debt"), Unpaid Company Transaction Expenses ("Estimated Unpaid Company Transaction Expenses"), the Net Working Capital Amount (the "Estimated Net Working Capital Amount") (including a reasonably detailed description of each component thereof) and, based upon such Estimated Net Working Capital Amount, the difference between the Estimated Net Working Capital Amount and the Targeted Net Working Capital Amount (such surplus, if applicable, the "Estimated Net Working Capital Surplus" and such deficit, if applicable, the "Estimated Net Working Capital Deficit"), such estimates to be prepared in good faith and in accordance with the policies, conventions, methodologies and procedures used by the Company in preparing its most recent unaudited Company Financial Statements to the extent consistent with GAAP. Based on such estimates and prior to Closing, the Company and Parent shall in good faith calculate and mutually agree on estimates of such amounts to be used for purposes of determining the Estimated Initial Merger Consideration for purposes of Closing.

(b) Calculation. As promptly as practicable, but in no event later than sixty (60)) days following the Closing Date, Parent shall cause the Surviving Company, to deliver to the Equityholders Representative a schedule (the "Closing Date Schedule"), along with reasonable supporting detail thereof, setting forth the Surviving Company's calculation of the Initial Merger Consideration and setting forth in reasonable detail the Surviving Company's calculation of Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses, such calculations to be prepared in good faith and in accordance with the policies, conventions, methodologies and procedures used by the Company in preparing its most recent unaudited Company Financial Statements to the extent consistent with GAAP.

(c) Review; Disputes.

(i) From and after the delivery of the Closing Date Schedule, Parent shall cause the Surviving Company to provide the Equityholders Representative and any accountants or advisors retained by the Equityholders Representative with reasonable access (including electronic deliveries) to the books and records of the Surviving Company during normal business hours for the purposes of: (A) enabling the Equityholders Representative and its accountants and advisors to calculate, and to review the Surviving Company's calculation of, Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses; and (B) identifying any dispute related to the calculation of any of Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses in the Closing Date Schedule.

(ii) If the Equityholders Representative disputes the calculation of any of Closing Debt, Closing Net Working Capital Amount, or Unpaid Company Transaction Expenses set forth in the Closing Date Schedule, then the Equityholders Representative shall deliver a written notice (a "Dispute Notice") to Parent at any time during the 30-day period commencing upon receipt by the Equityholders Representative of the Closing Date Schedule (as prepared by the Surviving Company in accordance with the requirements of Section 2.7(b)), (the "Review Period"). The Dispute Notice shall set forth the basis and amount for each dispute of any such calculation in reasonable detail together with relating supporting documentation and calculations, as well as the alternative calculation with respect to each of the components of the Closing Date Schedule.

(iii) If the Equityholders Representative does not deliver a Dispute Notice to the Surviving Company prior to the expiration of the Review Period, Parent's calculation of Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses set forth in the Closing Date Schedule shall be deemed final and binding on Parent, the Surviving Company, the Equityholders Representative and the Equityholders for all purposes of this Agreement.

(iv) If the Equityholders Representative delivers a Dispute Notice to Parent prior to the expiration of the Review Period, then the Equityholders Representative and Parent shall negotiate in good faith to reach agreement on Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses. Notwithstanding anything in this Agreement to the contrary (including in Section 10.11), if the Equityholders Representative and Parent are unable to reach agreement on Closing Debt, Closing Net Working Capital Amount, and Unpaid Company Transaction Expenses within thirty (30) days after the end of the Review Period either Party shall have the right to refer such dispute to EisnerAmper LLP, or if EisnerAmper LLP declines to serve, such other nationally or regionally recognized independent accounting firm that is mutually agreed upon in writing by Parent and the Equityholders Representative, (such firm, or any successor thereto, being referred to herein as the "Accounting Firm") for resolution after such 30-day period, *provided*, that the Parties may mutually agree in writing to extend such period before the dispute is referred to the Accounting Firm. In connection with the resolution of any such dispute by the Accounting Firm: (A) each of Parent and the Equityholders Representative shall have a reasonable opportunity to meet with the Accounting Firm; (B) the Accounting Firm shall determine Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses in accordance with the terms of this Agreement (and, for the avoidance of doubt, such determination shall be made strictly in accordance with the policies, conventions, methodologies and procedures used by the Company in preparing its most recent unaudited Company Financial Statements to the extent consistent with GAAP) within thirty (30) days of such referral and upon reaching such determination shall deliver a copy of its calculations (the "Determination") to the Equityholders Representative and Parent; and (C) the Determination made by the Accounting Firm of Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses shall be final and binding on Parent, the Surviving Company, the Equityholders Representative and the Equityholders for all purposes of this Section 2.7 (but not, for the avoidance of doubt, for purposes of Section 9.2(a)(vi)), absent manifest error. In calculating Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses, (x) the Accounting Firm shall be limited to addressing any particular disputes referred to in the Dispute Notice and (y) each such amount shall be no greater than the higher corresponding amount calculated by the Equityholders Representative or Parent and no lower than the lower corresponding amount calculated by the Equityholders Representative or Parent. The Determination shall reflect in detail the differences, if any, between Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses reflected therein and Closing Debt, Closing Net Working Capital Amount and Unpaid Company Transaction Expenses set forth in the Closing Date Schedule. The fees and expenses of the Accounting Firm shall be borne by Parent and the Equityholders Representative (on behalf of the Equityholders) in proportion to how close each Party's position was to the Determination of the Accounting Firm.

(d) Payment Upon Final Determination of Adjustments.

(i) If the Estimated Initial Merger Consideration is more than the Initial Merger Consideration, as finally determined in accordance with Section 2.7(c), then the Surviving Company shall be paid not later than three (3) Business Days after such Determination from the Reserve Fund by the Equityholders Representative (the "Shortfall Payment").

(ii) If the Initial Merger Consideration, as finally determined in accordance with Section 2.7(c), is more than the Estimated Initial Merger Consideration, then Parent shall, or shall cause the Surviving Company to, no later than three (3) Business Days after such Determination, cause to be paid the amount of such discrepancy by wire transfer of immediately available funds to the Paying Agent or Surviving Company as applicable, to be added to the Payment Fund for the benefit of, and to be distributed to, the Equityholders in accordance with Section 3.1 (the "Excess Payment"); provided, that Parent shall not be required to make any payments pursuant to this Section 2.7(d)(ii) in excess of $150,000.

Section 2.8 Delayed Merger Consideration; Contingent Merger Consideration.

(a) Payment and Distribution of Delayed Merger Consideration.

(i) Delayed Cash Merger Consideration. Subject to Section 9.3(e), on the Holdback Release Date, Parent shall pay, or cause the Surviving Company or the Paying Agent (by delivering such funds to the Paying Agent for addition to the Payment Fund) to pay, to each Equityholder in respect of its Company Capital Stock (other than Dissenting Shares) and Company Options in accordance with Section 2.6 and Article III, an amount in cash equal to the Per Share Delayed Cash Consideration. The amount of cash each Equityholder is entitled to receive pursuant to this Section 2.8 shall be rounded to the nearest whole cent.

(ii) Parent Delayed Share Merger Consideration. Subject to Section 9.3(e), on each anniversary of the Closing from the first anniversary of the Closing until the fourth anniversary of the Closing, Parent shall release from escrow to each Equityholder in respect of its Company Capital Stock (other than Dissenting Shares), a number of Parent Shares equal to the product of (x) the Per Share Delayed Share Consideration, multiplied by (y) .25.

(iii) Notwithstanding anything to the contrary contained herein, (A) in the event that an Equityholder's service to the Company as an officer, employee, director or independent contractor of Parent or one of its Subsidiaries is terminated by (x) Parent or one of its Subsidiaries without Cause or (y) such Equityholder as a result of a Resignation for Good Reason, all of the Delayed Merger Consideration payable to such Equityholder pursuant to this Agreement shall vest in full and payment of such Delayed Merger Consideration (including the release from escrow of the Parent Delayed Share Consideration) or Aggregate Option Delayed Payment Amount shall be made to such Equityholder within five (5) days following such termination and (B) other than as set forth in the foregoing clause (A), no Equityholder shall be entitled to the release from escrow or issuance of any Parent Delayed Share Merger Consideration or payment of any Aggregate Option Delayed Payment Amount unless such Equityholder is an officer, employee, director or independent contractor of Parent or one of its Subsidiaries on the applicable anniversary of the Closing Date in respect of which such release or issuance is being made and any such Parent Delayed Share Merger Consideration or Aggregate Option Delayed Payment Amount shall be forfeited by such Equityholder without consideration therefor and shall be retained by the Parent.

(b) Payment and Distribution of Contingent Merger Consideration; Commercially Reasonable Efforts.

(i) The payment of the Contingent Merger Consideration, if any, will be made in accordance with this Section 2.8 and Article III.

(ii) Notwithstanding anything in this Agreement, none of Parent, Surviving Company or any of their respective Affiliates (A) shall be under any obligation or have any duty to act in such a manner that any of the Milestones are achieved, (B) will owe any Equityholder any fiduciary or other similar duty in respect of this Section 2.8, or (C) will have any obligation, or shall be bound by an agreement or covenant of any kind, in respect of this Section 2.8 other than an obligation to comply with the covenants and agreements expressly set forth in this Section 2.8, it being the Parties' intention that any other covenants, agreements and/or obligations are expressly waived and disclaimed; provided, however, Parent shall not, and shall cause the Surviving Company not to, take any action with the primary and specific intention and effect of reducing the likelihood of the achievement of any Milestone. Promptly following the Closing, the Integration Committee shall discuss building and operating a cell therapy infrastructure in the Southern California area which will include the continued research and development of Company Intellectual Property and Company Products (the "SoCo Infrastructure") in accordance with the Operational Plan as in effect from time to time. The Operational Plan shall provide for, and Parent shall make available, during the period from the date of the Closing through December 31, 2022, a budget of at least Thirty Million Dollars ($30,000,000) (the "Budget Commitment") in the aggregate on an as-needed basis to support execution of the Operational Plan. Parent shall have the ability to modify the Operational Plan from time to time in its sole discretion after its adopted without the consent of the Integration Committee, but in no event shall the Budget Commitment be reduced.

(c) Contingent Merger Consideration.

(i) With respect to the Initial Milestone, within forty-five (45) days after the occurrence of the Initial Milestone, Parent shall pay, or cause the Surviving Company or the Paying Agent (by delivering such funds to the Paying Agent for addition to the Payment Fund) to pay, to each Equityholder in respect of its Company Capital Stock (other than Dissenting Shares) and Company Options in accordance with Section 2.6 and Article III and subject to Section 2.8(a)(iii), an amount equal to the applicable Per Share Initial Earnout Payment Amount, to be paid in the method elected by Parent in accordance with Section 2.8(f). The amount of cash each Equityholder is entitled to receive pursuant to this Section 2.8 shall be rounded to the nearest whole cent.

(ii) With respect to the Second Milestone, within forty-five (45) after the occurrence of the Second Milestone, Parent shall pay, or cause the Surviving Company or the Paying Agent (by delivering such funds to the Paying Agent for addition to the Payment Fund) to pay, to each Equityholder in respect of its Company Capital Stock (other than Dissenting Shares) and Company Options in accordance with Section 2.6 and Article III and subject to Section 2.8(a)(iii), an amount equal to the applicable Per Share Second Earnout Payment Amount, to be paid in the method elected by Parent in accordance with Section 2.8(f). The amount of cash each Equityholder is entitled to receive pursuant to this Section 2.8 shall be rounded to the nearest whole cent.

(iii) With respect to the Third Milestone, within forty-five (45) after the occurrence of the Third Milestone, Parent shall pay, or cause the Surviving Company or the Paying Agent (by delivering such funds to the Paying Agent for addition to the Payment Fund) to pay, to each Equityholder in respect of its Company Capital Stock (other than Dissenting Shares) and Company Options in accordance with Section 2.6 and Article III and subject to Section 2.8(a)(iii), an amount equal to the applicable Per Share Third Earnout Payment Amount, to be paid in the method elected by Parent in accordance with Section 2.8(f). The amount of cash each Equityholder is entitled to receive pursuant to this Section 2.8 shall be rounded to the nearest whole cent.

(d) Dissenting Shares. For the avoidance of doubt, the provisions of this Section 2.8 also shall apply to Dissenting Shares that lose their status as such, and the obligations of Parent under this Section 2.8 with respect to any Dissenting Shares shall commence on the date that such Dissenting Shares become non-Dissenting Shares, and the holder of such shares shall be entitled to receive in exchange for such shares the payments under this Section 2.8 to which such holder would otherwise have been entitled pursuant to Section 2.6 and Section 3.1 had such shares not been Dissenting Shares at the Effective Time.

(e) Non-Assignment of Rights to Delayed Merger Consideration or Contingent Merger Consideration. No Equityholder may assign, delegate or otherwise transfer any of its rights to the Delayed Merger Consideration or the Contingent Merger Consideration without the prior written consent of Parent (for clarity, such restriction shall not apply to any Parent Shares actually issued as a portion of the Delayed Merger Consideration or Contingent Merger Consideration). Any attempted or purported transfer in violation of this sentence will be null and void. Parent may assign, delegate or otherwise transfer any of its obligations to the Delayed Merger Consideration or the Contingent Merger Consideration without the prior written consent of any Equityholder as part of the sale of Parent, its assets or any line of business or group of assets that include the Business; provided such acquirer or successor in interest agrees in writing to be bound by the terms of this Agreement and assume the obligations hereunder (and to be deemed Parent for purposes hereof without relieving Parent and its obligations hereunder). The Company hereby acknowledges and agrees, and by their adoption of this Agreement, acceptance of consideration under this Agreement, and/or the delivery of the Letters of Transmittal contemplated by Section 3.1, the Equityholders acknowledge and agree, that: (i) neither the Delayed Merger Consideration nor the Contingent Merger Consideration represent any ownership or equity participation interest in the Company, Merger Sub, the Surviving Company or Parent and does not entitle any Equityholder to voting rights or rights to dividend payments, (ii) each of the Delayed Merger Consideration and the Contingent Merger Consideration is solely represented by this Agreement and is not represented by any certificate, instrument or other delivery, (iii) each of the Delayed Merger Consideration and the Contingent Merger Consideration is solely a contractual right and is not a security for purposes of any securities Laws, and confers upon the Equityholders only the rights of a general unsecured creditor under applicable Law, (iv) neither the Delayed Merger Consideration nor the Contingent Merger Consideration bears interest and (v) neither the Delayed Merger Consideration nor the Contingent Merger Consideration is redeemable.

(f) Method of Payment for Contingent Merger Consideration. Subject to the last sentence of this Section 2.8(f), Parent may choose to pay (or cause the Paying Agent to pay) the Contingent Merger Consideration in Cash or of Parent Shares or a combination of both; provided, however, amounts payable to Optionholders with respect to their Company Options shall be in cash. If Parent chooses to pay any portion of the Contingent Merger Consideration in Parent Shares, then, subject to Section 2.8(a)(iii), the aggregate number of Parent Shares to be issued to the Equityholders in respect of their Company Capital Stock with respect to the Initial Earnout Consideration, the Second Earnout Consideration or the Third Earnout Consideration, as applicable, shall be equal to the quotient of (i)(A) the amount of the Initial Earnout Consideration, the Second Earnout Consideration or the Third Earnout Consideration, as applicable, minus (B) any cash elected to be paid by Parent in respect of the applicable the Initial Earnout Consideration, the Second Earnout Consideration or the Third Earnout Consideration, as applicable, divided by (ii) the Market Value. Notwithstanding any other provision contained in this Agreement or anything else to the contrary, the Parent Shares and Cash paid on the occurrence of the Initial Milestone, the Second Milestone or the Third Milestone, as applicable, shall be adjusted, such that at each relevant payment date, the value of the aggregate number of Parent Shares received by the former holders of Company capital stock (including for this purpose, if determined by Parent in its reasonable judgment to be required for purposes of Section 368(a) of the Code, former holders of Company Convertible Notes, but excluding the former holders of Company Options) as of such date (including any Parent Shares received by them prior to such date) shall be equal to no less than the product of (x) forty percent (40%) of the aggregate consideration received by them as of such date (including any Contingent Merger Consideration, Delayed Merger Consideration and Initial Merger Consideration received by them prior to such date), valuing the Parent Shares issued at Closing (including the Parent Delayed Share Consideration, regardless of whether such Parent Shares subsequently are forfeited pursuant to Section 2.8(a)(iii), provided that a valid election under Section 83(b) of the Code is made by the recipient) as of the Closing Date, and valuing the Parent Shares issued upon achievement of the Initial Milestone, the Second Milestone and the Third Milestone at the Market Value as of the time of the applicable payment.

Section 2.9 Parent Shares.

(a) The Parent Shares issued pursuant to the terms of this Agreement will be issued in a transaction exempt from registration under the Securities Act by reason of Section 4(a)(2) thereof and/or Regulation D promulgated under the Securities Act and may not be re-offered or resold other than in conformity with the registration requirements of the Securities Act and such other applicable rules and regulations or pursuant to an exemption therefrom. Until the resale by the Equityholders of their Parent Shares has become registered (including pursuant to the Registration Statement) under the Securities Act, or otherwise transferable pursuant to an exemption from such registration otherwise required thereunder, the Parent Shares issued to the Equityholders shall be characterized as "restricted securities" under the Securities Act and, if certificated, shall bear the following legend (or if held in book entry form, will be noted with a similar restriction):

> "THE SHARES OF STOCK REPRESENTED BY THIS CERTIFICATE HAVE BEEN ACQUIRED FOR INVESTMENT PURPOSES ONLY, AND THE RESALE OF SUCH SHARES HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE RESOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION WITHOUT AN EXEMPTION UNDER THE SECURITIES ACT."

Parent agrees to cooperate in a timely manner with the Equityholders holding Registrable Securities to remove any restrictive legends or similar transfer instructions from the Registrable Securities upon the registration of the Registrable Securities or in the event that the Registrable Securities are otherwise transferable pursuant to an exemption from registration otherwise required thereunder.

(b) Each Equityholder that will receive Parent Shares in connection with the transactions contemplated hereby shall be required to enter into a Joinder to Parent Voting Agreement and Right of First Refusal and Co-Sale Agreement in substantially the form attached hereto as Exhibit F as a condition to receiving such Parent Shares. Each Equityholder acknowledges and agrees that, upon execution and delivery of the Right of First Refusal and Co-Sale Agreement and the Voting Agreement, the Parent Shares held by such Equityholder shall be subject to the right of first refusal and co-sale and lockup provisions contained in Section 2 and 5, respectively, of the Right of First Refusal and Co-Sale Agreement, as well as the "drag-along" provisions of Section 3 of the Voting Agreement.

(c) In the event that at the time of payment of any Contingent Merger Consideration (if the Parent elects to make such payment through the issuance of Parent Shares) or Delayed Merger Consideration, the Initial Milestone has been met, then as promptly as reasonably practicable following the issuance of such Registrable Securities, Parent shall file with the SEC, and use its commercially reasonable efforts to cause to be declared effective as soon as reasonable practicable after filing (in the case of clause (1) below), either (1) a Registration Statement (or a post-effective amendment to a Registration Statement) covering the resale on a continuous basis of such Registrable Securities held by all holders that have adequately and timely provided Parent with all selling shareholder information required under the Securities Act and the rules and regulations promulgated thereunder to be included in such Registration Statement or (2) in the event Parent determines that it may register the resale of such Registrable Securities under an existing Registration Statement without an amendment thereto, a prospectus supplement (a "Prospectus Supplement") under such Registration Statement covering the resale on a continuous basis of the Additional Registrable Securities held by all holders that have adequately and timely provided Parent with all selling shareholder information required under the Securities Act and the rules and regulations promulgated thereunder to be included in the Prospectus Supplement.

(d) Parent shall use its commercially reasonable efforts to (i) prepare and file with the SEC such amendments and supplements to any Registration Statement filed pursuant to Section 2.9(c) as may be necessary to keep the Registration Statement effective until such time that all Registrable Securities covered by the Registration Statement cease to constitute Registrable Securities hereunder (the "Effectiveness Period"), provided, however, that in no event shall the Effectiveness Period last longer than three (3) years from the date of the original effectiveness of the Registration Statement; (ii) after the Initial Milestone has occurred, make and keep available adequate current public information, as those terms are defined in Rule 144; (iii) after the Initial Milestone has occurred, use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of Parent under the Securities Act and Exchange Act; and (iv) cause all such reports and other documents required to be filed by Parent under the Securities Act and Exchange Act (other than the information supplied (or to be supplied) by or on behalf of any of the Holders of Registrable Securities for inclusion or incorporation by reference in the applicable Registration Statement or Prospectus) at the time of sale of any Registrable Securities not to contain any untrue statement of material fact or omit to state a material fact required to be stated therein necessary to make the statements therein, in light of the circumstances under which they are made, not misleading.

(e) As a condition to its obligations under this Section 2.9, Parent may require each Holder of Registrable Securities as to which any registration is being effected pursuant to Section 2.9(c) to (i) furnish Parent with such information regarding such Person that is necessary to satisfy the disclosure requirements relating to the registration and the distribution of such securities under the Securities Act and the rules and regulations promulgated thereunder as Parent may from time to time reasonably request in writing; (ii) execute and deliver a Lock Up Agreement if such Registration Statement is filed in connection with the initial Public Offering or within the 180 day period after the initial Public Offering (provided, however, that the terms of this Section 2.9, including the obligation to execute and deliver a Lock Up Agreement pursuant to this clause (ii), shall not substitute for, replace or otherwise limit the obligations of a Holder of Registrable Securities to abide by and execute further agreements pursuant to Section 5.1 of the Right of First Refusal and Co-Sale Agreement), and (iii) promptly notify Parent in writing of any changes in the information set forth in the applicable Registration Statement after it is prepared regarding the Holder of Registrable Securities. None of the information supplied (or to be supplied) by or on behalf of any of the Holders of Registrable Securities for inclusion or incorporation by reference in the Registration Statement or Prospectus will, at the time the Registration Statement is declared effective under the Securities Act (or with respect to any post-effective amendments or supplements thereto, at the time such post-effective amendments or supplements become effective under the Securities Act), contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they are made, not misleading. For the purposes of this Section 2.9, a "Holder of Registrable Securities" refers solely to a holder of Registrable Securities issued hereunder.

(f) Parent may, by two (2) days prior written notice to all the Holders of Registrable Securities (each, a "Blackout Notice"), (i) delay the filing of any Registration Statement or a request for acceleration of the effective date for a period not to exceed thirty (30) days, which delay cannot occur more than two times in any one year period, *provided¸ however,* that Parent shall not be obligated to file or effect, or to take any action to file or effect, any Registration Statement during the period that is 180 days after the initial Public Offering or (ii) suspend any Registration Statement after effectiveness and require that the Holders of Registrable Securities immediately cease sales of shares pursuant to any

Registration Statement in the event that (A) Parent is engaged in any activity or transaction or preparations or negotiations for any activity or transaction that Parent desires to keep confidential for business reasons, if Parent determines in good faith that the public disclosure requirements imposed on Parent under the Securities Act in connection with such Registration Statement would require at that time disclosure of such activity, transaction, preparations or negotiations and such disclosure could result in imminent and material harm to Parent or (B) any other event occurs that makes any statement of a material fact made in such Registration Statement, including any document incorporated by reference therein, untrue or that requires the making of any additions or changes in such Registration Statement in order to make the statements therein not misleading. If Parent suspends any Registration Statement and requires the Holders of Registrable Securities to cease sales of shares pursuant to this Section 2.9(f), Parent shall, as promptly as reasonably practicable following the termination of the circumstance which entitled Parent to do so, take such actions as may be reasonably necessary to file or reinstate the effectiveness of such Registration Statement and give written notice to all Holders of Registrable Securities authorizing them to resume sales pursuant to such Registration Statement. If as a result thereof the Prospectus included in any Registration Statement has been amended to comply with the requirements of the Securities Act, Parent shall enclose such revised Prospectus with the notice to Holders of Registrable Securities given pursuant to this Section 2.9(f), and the Holders of Registrable Securities shall make no offers or sales of shares pursuant to such Registration Statement other than by means of such revised Prospectus. Parent need not specify the nature of the event giving rise to any delay or suspension in any notice to Holders of Registrable Securities and such Holders of Registrable Securities agree to treat and keep the existence of such delay or suspension, as the case may be, confidential.

(g) Following the initial Public Offering, Parent shall use commercially reasonable efforts to obtain approval for the listing of all Parent Shares issued as part of any Contingent Merger Consideration hereunder on the applicable stock exchange where Parent Shares primarily trade as promptly as reasonably practicable in connection with the issuance thereof.

(h) Parent shall pay all fees and expenses in connection with compliance with its obligations under this Section 2.9, including all fees and expenses in connection with the filing of any Registration Statement or Prospectus Supplement, the registering of the Registrable Securities, fees and expenses of compliance with securities or "blue sky" Laws, transfer agent fees, the maintenance of the effectiveness of the Registration Statement, and the listing of the Parent Shares, including all registration, filing, qualification, printing, accounting and other fees and expenses; for the avoidance of doubt, Parent shall not be responsible for any underwriting discounts and selling commissions due in connection with the sale of Registrable Securities by any Holder or for any legal fees and expenses of legal counsel or advisors for any Holder.

ARTICLE III
EXCHANGE OF COMPANY CERTIFICATES

Section 3.1 Exchange of Company Certificates.

(a) Payment.

(i) Prior to the Effective Time, Parent shall appoint Acquiom Financial LLC, a Colorado limited liability company, or another bank or trust company designated by Parent and reasonably satisfactory to the Company (the "Paying Agent") for the purpose of exchanging the Merger Consideration to be paid pursuant to Article II to holders of Company Capital Stock and Non-Employee Options.

(ii) At or promptly following the Effective Time, Parent shall deposit or shall cause to be deposited with the Paying Agent: by wire transfer of immediately available funds, for the benefit of the holders of shares of Company Capital Stock (other than Dissenting Shares) and Non-Employee Options, in each case entitled to receive the portion of the Merger Consideration payable pursuant to Section 2.6, (x) the Estimated Initial Merger Consideration, less (y) the Employee Options Payment Amount (as defined below) (such cash, the "Payment Fund"); *provided, however,* that Parent shall promptly thereafter deposit with the Paying Agent by wire transfer of immediately available funds any amounts by which the Payment Fund increases due to any Dissenting Shares becoming non-Dissenting Shares in accordance with Section 3.2, for the benefit of the holders thereof. Parent may increase the amount of the Payment Fund from time to time by the amount of (A) any Excess Payment, (B) any Delayed Merger Consideration or Contingent Merger Consideration payable to the Equityholders pursuant to Section 2.8, or (C) any other amounts to be paid by or on behalf of Parent hereunder, in each case to the extent that the Paying Agent shall be utilized to facilitate payment of such amounts to the Equityholders, in which case Parent shall direct the Paying Agent to distribute such amounts to the Equityholders in accordance with this Agreement as promptly as practicable following the deposit of such amounts with the Paying Agent.

(iii) At or promptly following the Effective Time, with respect to holders of Employee Options, Parent shall pay to the Surviving Company by means of a wire transfer of immediately available funds the portion of the Options Payment Amount to be paid in respect of the Employee Option (the "Employee Options Payment Amount"), which amount Parent shall then cause to be paid to such holder of Employee Options by the Surviving Company through its payroll system at or as soon as reasonably practicable following the Closing, subject to any applicable withholding Taxes; *provided, however,* that each such holder of Employee Options first delivers an executed consent agreement (the "Option Cancellation Agreement") to the Surviving Company in the form attached as Exhibit G, *provided, further*, that notwithstanding anything to the contrary contained herein, the Equityholders shall have no liability under Section 9.2(a) for any Damages resulting from or relating to a Company Employee Optionholder's refusal to execute and deliver an Option Cancellation Agreement.

(b) Exchange Procedures.

(i) On the Closing Date, Parent shall mail, or shall cause the Paying Agent to mail, to each Equityholder entitled to receive a portion of the Initial Merger Consideration pursuant to Section 2.6 (other than holders of Employee Options with respect to such Employee Options) (x) a Letter of Transmittal in the form attached as Exhibit H (a "Letter of Transmittal") and, and in the case of any Company Stockholder, an Accredited Investor Questionnaire, and (y) instructions for effecting the surrender or cancellation of each Company Certificate or Non-Employee Option in exchange for the amount to be paid to such Equityholder pursuant to Section 2.6 in respect of such Company Certificate or Non-Employee Option. For purposes of this Agreement, "Letter of Transmittal" shall be deemed to include all such other documents as may be required to be delivered by an Equityholder pursuant to the instructions thereto, including a properly completed IRS Form W-9, or the appropriate version of IRS Form W-8, as applicable.

(ii) Following the Closing:

A. (1) each holder of Company Capital Stock (other than holders of Dissenting Shares) may deliver to the Paying Agent for cancellation such Equityholder's Company Certificates, together with an executed and completed Letter of Transmittal covering the shares of Company Capital Stock represented by such Company Certificates, and a properly completed IRS Form W-9, or the appropriate version of IRS Form W-8, as applicable, in which case (2) subject to the other provisions of this Article III, Parent shall cause the Paying Agent to deliver, in the manner designated in the applicable Letters of Transmittal, the portion of the Merger Consideration then payable in respect of such shares of Company Capital Stock pursuant to Section 2.6; and

B. (1) each holder of Non-Employee Options may deliver to the Paying Agent an executed and completed (x) Letter of Transmittal and (y) Option Cancellation Agreement, in each case covering such holder's Non-Employee Options and a properly completed IRS Form W-9, or the appropriate version of IRS Form W-8, as applicable, (together, the "Optionholder Deliverables"), in which case (2) subject to the other provisions of this Article III, Parent shall cause the Paying Agent to deliver, in the manner designated in the applicable Letters of Transmittal, the portion of the Merger Consideration then payable in respect of such Non-Employee Options pursuant to Section 2.6.

(iii) To the extent that any Equityholder has not delivered to the Paying Agent an executed and completed Letter of Transmittal, together with Company Certificates (in the case of Company Capital Stock), executed and completed Optionholder Deliverables (in the case of Company Options), covering all of the shares of Company Capital Stock or Company Options, as applicable, held by such Equityholder as of the Closing in accordance with Section 3.1(a)(i), then, upon surrender of (x) in the case of a holder of Company Capital Stock, Company Certificates for cancellation and a completed and executed Letter of Transmittal covering the shares of Company Capital Stock represented by such Company Certificates, and (y) in the case of an Optionholder, completed and executed Optionholder Deliverables, in each case to Parent or the Paying Agent, the Company Certificates and Company Options so surrendered shall forthwith be canceled, and the holder of such Company Certificates or Company Options, as applicable, shall be entitled to receive in exchange therefor, and Parent shall deliver or cause the Surviving Company or the Paying Agent to deliver, subject to the other provisions of this Article III and in the manner designated in the applicable Letters of Transmittal, the portion of the Merger Consideration (in either, or both, Parent Shares or cash) then payable in respect of such shares of Company Capital Stock formerly represented by such Company Certificate (and the Company Certificates so surrendered shall forthwith be canceled) or Company Options. Following the Paying Agent's receipt of (A) an Excess Payment, (B) any Delayed Merger Consideration, (C) any Contingent Merger Consideration, or (D) any other amounts to be paid by the Paying Agent to the Equityholders on behalf of Parent, Parent will in each case cause the Paying Agent to promptly pay to each Equityholder (other than with respect to Dissenting Shares) such consideration payable to each Equityholder pursuant to this Agreement, *provided*, *further*, that if any such amount is payable prior to receipt of surrendered Company Certificates (and a completed and executed Letter of Transmittal), or executed and completed Optionholder Deliverables, as the case may be, then payment of the portion thereof applicable to such unsurrendered Company Certificates or Company Options, as the case may be, shall be made upon, and as promptly as practicable following, surrender and delivery thereof (together with the other applicable deliverables described in this proviso) in accordance with this Agreement. Until so surrendered as contemplated by this Section 3.1, each outstanding Company Certificate shall, subject to Section 3.2, be deemed from and after the Effective Time, for all corporate purposes, to evidence only the right to receive upon such surrender the Capital Stock Payment payable in respect of such Company Certificate as set forth in Section 2.6. No interest will be paid or accrued on any Capital Stock Payment or Option Consideration, except as otherwise expressly provided herein. In the event of a transfer of ownership of shares of Company Capital Stock that is not registered in the transfer records of the Company, the Capital Stock Payment payable in respect of such shares of Company Capital Stock may be issued to a transferee if the Company Certificate representing such shares of Company Capital Stock is properly endorsed and presented to the Paying Agent, accompanied by any documents reasonably required to evidence and effect such transfer and by evidence that any applicable stock transfer Taxes have been paid.

(c) Lost, Stolen or Destroyed Company Certificates. If any Company Certificate shall have been lost, stolen or destroyed, upon (i) the making of an affidavit of that fact by the Person claiming such Company Certificate to be lost, stolen or destroyed and (ii) the execution and delivery to the Paying Agent or Parent by such Person of an indemnity agreement in form and substance reasonably acceptable to the Paying Agent or Parent, as applicable, and, if requested by the Paying Agent or Parent, the posting of a bond as indemnity against any claim that may be made against the Paying Agent or Parent with respect to such Company Certificate, Parent shall, subject to Section 3.1(a) and Section 3.1(b), issue or cause the Paying Agent to issue, in exchange for such lost, stolen or destroyed Company Certificate, the amount of cash or Parent Stock, without interest, that such Person would have been entitled to receive pursuant to Section 2.6 had such Person surrendered such lost, stolen or destroyed Company Certificate to the Surviving Company or the Paying Agent in accordance with Section 3.1(a) and Section 3.1(b) (and, for the avoidance of doubt, such Person shall have the right to receive the applicable portions of the amounts set forth in clauses (A) through (C) of Section 3.1(b)(iii) above).

(d) No Liability. Notwithstanding anything to the contrary in this Section 3.1, neither the Company, Merger Sub, Merger LLC, Parent, the Surviving Company nor the Surviving Corporation shall be liable to any Person for any amount properly paid to a public official pursuant to any abandoned property, escheat or similar Law.

(e) Withholding. Each of Parent, the Surviving Corporation, the Surviving Company and their respective Affiliates and the Paying Agent shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to this Agreement to any holder of Company Capital Stock or Company Options such amounts as any of Parent, the Surviving Corporation, the Surviving Company and their respective Affiliates and the Paying Agent is required to deduct and withhold under the Code, or any provision of state, local or foreign Tax Law, with respect to the making of such payment. To the extent that amounts are so withheld by Parent, Merger Sub, the Surviving Corporation, the Surviving Company or their respective Affiliates or the Paying Agent and timely paid over to the applicable Governmental Authority, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Person in respect of whom such deduction and withholding was made.

(f) No Fractional Shares. No fractional Parent Shares shall be issued in exchange for shares of Company Capital Stock. Each holder of shares of Company Capital Stock converted pursuant to the Merger who would otherwise have been entitled to receive a fraction of a Parent Share (after taking into account all Company Certificates delivered by such holder and the aggregate number of shares of Company Capital Stock represented thereby) shall receive, in lieu thereof, Cash (without interest and subject to applicable Tax withholding) in an amount equal to such fractional part of a Parent Share multiplied by the Market Value thereof.

Section 3.2 Dissenting Shares.

(a) Notwithstanding anything to the contrary contained in this Agreement, to the extent that (i) the provisions of Chapter 13 of the California General Corporation Law (the "CGCL") are or prior to the Effective Time may become applicable to the First-Step by reason of Section 2115 of the CGCL, or (ii) the provisions of Section 262 of the DGCL are or prior to the Effective Time may become applicable to the First-Step, then any share of Company Capital Stock that, as of the Effective Time, is or may become a "dissenting share" within the meaning of Section 1300(b) of the CGCL or may carry appraisal rights under Section 262 of the DGCL (collectively, the "Dissenting Shares") shall not be converted into or represent the right to receive the applicable Merger Consideration, and the holder or holders of such share shall be entitled only to such rights as may be granted to such holder or holders in Chapter 13 of the CGCL or Section 262 of the DGCL; *provided, however*, that if the status of any such

share as a "dissenting share" or share carrying appraisal rights shall not be perfected or shall be withdrawn, or if any such share shall lose its status as a "dissenting share" or share carrying appraisal rights, then, as of the later of the Effective Time or the time of the failure to perfect such status or the loss of such status, such share shall automatically be converted into and shall represent only the right to receive (upon the surrender of the certificate representing such share) the applicable Merger Consideration in accordance with Section 2.6.

(b) The Company shall give Parent (i) prompt notice (within one calendar day of receipt) of any written demand received by the Company prior to the Effective Time to require the Company to purchase shares of Company Capital Stock pursuant to Chapter 13 of the CGCL or Section 262 of the DGCL and of any other demand, notice or instrument delivered to the Company prior to the Effective Time pursuant to the CGCL or the DGCL, and (ii) the opportunity to participate in all negotiations and proceedings with respect to any such demand, notice or instrument. The Company shall not make any payment or settlement offer prior to the Effective Time with respect to any such demand unless Parent shall have consented in writing to such payment or settlement offer.

Section 3.3 Reserve Fund. At the Closing, Parent shall deliver the Reserve Fund to an account designated by the Equityholders Representative, in his capacity as such, for the payment of expenses incurred by the Equityholders Representative in performing his duties pursuant to this Agreement in accordance with Section 10.1. The release to the Equityholders (other than with respect to Dissenting Shares) of any remaining portion of the Reserve Fund shall be made in accordance with Section 10.1.

Section 3.4 No Further Ownership Rights in Shares of Company Capital Stock; Closing of Company Transfer Books. At and after the Effective Time, each holder of Company Capital Stock shall cease to have any rights as a stockholder of the Company, except for, in the case of a holder of Company Capital Stock (other than shares to be canceled pursuant to Section 2.6(a) or Dissenting Shares), the right to surrender his, her or its Company Certificate in exchange for the Capital Stock Payment or, in the case of a holder of Dissenting Shares, to perfect his, her or its right to receive payment for his or her shares of Company Capital Stock pursuant to the DGCL, and no transfer of shares of Company Capital Stock shall be made on the stock transfer books of the Surviving Corporation. At the Effective Time, the stock transfer books of the Company shall be closed, and no transfer of shares of Company Capital Stock shall thereafter be made. If, after the Effective Time, Company Certificates are presented to Parent, the Surviving Corporation, the Surviving Company or the Paying Agent, they shall be canceled and exchanged as provided for in this Agreement.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF THE COMPANY

Contemporaneously with the execution and delivery of this Agreement by the Company to Parent, Merger Sub and Merger LLC, the Company shall deliver to Parent, Merger Sub and Merger LLC a confidential disclosure schedule (the "Company Disclosure Schedule"). Subject to the exceptions and qualifications set forth in the Company Disclosure Schedule, the Company hereby represents and warrants to Parent, Merger Sub and Merger LLC, as of the date hereof and as of the Closing Date, as follows:

Section 4.1 Corporate Status. The Company (a) is duly organized, validly existing and in good standing under the Laws of the state of Delaware, (b) has all requisite power and authority to carry on its Business and (c) is duly qualified to do business and is in good standing in each of the jurisdictions in which the ownership, operation or leasing of its properties and assets and the conduct of its Business requires it to be so qualified, licensed or authorized, except, in the cases (b) and (c) for those jurisdictions

where the failure to be so qualified, licensed or authorized would not reasonably be expected to have a Material Adverse Effect. True and complete copies of (a) the Organizational Documents of the Company, each as amended and in effect as of the date of this Agreement, (b) the stock records of the Company and (c) the minutes and other records of the meetings and other proceedings (including any actions taken by written consent or otherwise without a meeting) of the stockholders of the Company, the Company Board of Directors and all committees thereof have been made available to Parent. There has not been any violation of any of the provisions of the Organizational Documents of the Company and the Company has not taken any action that is inconsistent in any material respect with any resolution adopted by the stockholders of the Company, the Company Board of Directors or any committees thereof. The Company is subject to Section 2115 of the CGCL.

Section 4.2 Authority and Enforceability.

(a) The Company has all necessary corporate power and authority to enter into this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated by this Agreement. The execution and delivery of this Agreement by the Company, the performance by the Company of its obligations hereunder, and the consummation by the Company of the transactions contemplated by this Agreement, have been duly authorized by the board of directors of the Company (the "Company Board of Directors"), and no other corporate action on the part of the Company is necessary to authorize the execution and delivery of this Agreement by the Company, the performance by the Company of its obligations hereunder or the consummation by the Company of the transactions contemplated by this Agreement, other than the Company Stockholder Approval. This Agreement has been duly executed and delivered by the Company and (assuming due authorization, execution and delivery by the other Parties to this Agreement) constitutes a valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as enforceability may be limited by or subject to (a) bankruptcy, insolvency, reorganization, moratorium and other similar Laws relating to or affecting creditors' rights generally or (b) the effect of rules of Law and general principles of equity, including those governing specific performance, injunctive relief and other equitable remedies (regardless of whether such enforceability is considered in a proceeding in equity or at Law) (the "Enforceability Exceptions").

(b) At a meeting duly called and held or by written consent in lieu thereof, the Company Board of Directors has (i) unanimously determined that this Agreement and the transactions contemplated hereby are fair to, advisable and in the best interests of the Company's stockholders, (ii) unanimously approved and adopted this Agreement and the transactions contemplated hereby and (iii) unanimously resolved (subject to Section 6.4) to recommend adoption of this Agreement and approval of the First-Step and the other transactions contemplated hereby by the Company's stockholders (such recommendation, the "Company Board Recommendation").

Section 4.3 No Conflict; Government Authorizations.

(a) The execution and delivery of this Agreement, the performance by the Company of its obligations hereunder and the Ancillary Documents to which the Company is or will be a party, and the consummation by the Company of the transactions contemplated by this Agreement or the Ancillary Documents to which the Company is or will be a party, does not and will not (i) conflict with, or result in any violation of the Company's Organizational Documents; (ii) subject to the matters described in Section 4.3(b), conflict with or result in a violation of any material Permit or Law applicable to the Company or its assets; or (iii) except as set forth on Section 4.3(a) of the Company Disclosure Schedule, result in a material breach of, or constitute a material default (or event which with the giving of notice or lapse of time, or both, would become a default) under, or give rise to any rights of termination, cancellation or acceleration of any obligation or to loss of a benefit under, or result in the creation of any Encumbrance (not including Permitted Encumbrances) upon any of the rights or assets of the Company pursuant to any Company Material Contract of the Company.

(b) Except as set forth on Section 4.3(b) of the Company Disclosure Schedule, no consent of, or registration, declaration, notice or filing with, any Governmental Authority is required to be obtained or made by the Company in connection with the execution, delivery and performance of this Agreement and the Ancillary Documents to which the Company is or will be a party or the consummation of the transactions contemplated hereby or thereby, other than the filing of the First-Step Certificate of Merger or other documents with the Secretary of State of the State of Delaware.

Section 4.4 Capitalization.

(a) As of the date of this Agreement, the authorized capital stock of the Company consists of 6,250,000 shares of Company Common Stock, of which 5,000,000 shares are issued and outstanding. All issued and outstanding shares of Company Capital Stock have been, and all shares of Company Capital Stock that may be issued pursuant to the Company Plan will, when issued, be, duly authorized, validly issued, fully paid, and are nonassessable and free and clear of any and all Encumbrances and free and clear of any covenant, condition, restriction, voting trust arrangement or adverse claim of any kind and have been issued in compliance with all applicable federal and state securities Laws. Except as set forth on Section 4.4(a) of the Company Disclosure Schedule, there are no outstanding options, convertible notes or other rights to acquire Company Capital Stock, other than (x) Company Options representing in the aggregate the right to purchase 363,500 shares of Company Common Stock under the Company Plan and (y) the Company Convertible Notes in the aggregate principal amount of Three Million Fifty Thousand Dollars ($3,050,000). No shares of the Company Capital Stock (1) are subject to preemptive rights or rights of first refusal or (2) were issued in violation of any preemptive, subscription or other similar rights under any provision of applicable Law, the Company's Organizational Documents or any Contract of the Company.

(b) Section 4.4(b) of the Company Disclosure Schedule (the "Capitalization Table") sets forth a complete and accurate list of the holders of capital stock of the Company, showing the number of shares of capital stock held by each stockholder. Section 4.4(b) of the Company Disclosure Schedule also indicates all outstanding shares of Company Stock that constitute restricted stock or that are otherwise subject to a repurchase or redemption right, indicating the name of the applicable stockholder, the vesting schedule (including any acceleration provisions with respect thereto), and the repurchase price payable by the Company. Section 4.4(b) of the Company Disclosure Schedule sets forth for each outstanding Company Option as of the date hereof, the name of the holder of such Company Option, an indication of whether such holder is an employee of or consultant to the Company, the date of grant of such Company Option, the number or amount of securities as to which such Company Option is exercisable, the vesting schedule of such Company Option and the exercise price of such Company Option. No Company Option (i) has an exercise price that is or was less than the fair market value of a share of Company Common Stock as of the date such Company Option was granted as determined in a manner not inconsistent with Section 409A of the Code, (ii) has any feature for the deferral of compensation other than the deferral of recognition of income until the later of exercise or disposition of such Company Option (all within the meaning of Section 409A of the Code and the Treasury Regulations thereunder), or (iii) has been granted with respect to any class of stock of the Company that is not "service recipient stock" (within the meaning of Section 409A of the Code and the Treasury Regulations thereunder).

(c) Section 4.4(c) of the Company Disclosure Schedule sets forth for each outstanding Convertible Notes, the name of the holder of such Convertible Notes, whether the holder of such Convertible Notes is a United States person within the meaning of Section 7701(a)(30) of the Code and, if not, the Tax jurisdiction of such holder, the issue date of such Convertible Note and the aggregate principal amount outstanding of each Convertible Note . True and correct copies of each Convertible Notes have been made available to Parent.

(d) The Company does not own, directly or indirectly, any equity or other similar interest, or any right (contingent or otherwise) to acquire any such interest, in any other Person or in any joint venture.

(e) Except as otherwise set forth in this Section 4.4, there are no securities, options, convertible notes, restricted stock, stock appreciation rights, restricted stock units, phantom stock, calls, rights, commitments, agreements, arrangements or undertakings of any kind to which the Company is a party or by which it is bound obligating the Company to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares of capital stock or other voting securities or securities convertible into, or linked to or exchangeable for equity interests or voting securities of the Company or any of its Subsidiaries or obligating the Company to issue, grant, extend or enter into any such security, option, convertible note, call, right, commitment, agreement, arrangement or undertaking. Except as set forth in the Company's Organizational Documents there are no outstanding obligations of the Company to repurchase, redeem or otherwise acquire any shares of capital stock of the Company. There are no bonds, debentures, notes or other Debt of the Company having the right to vote (or, except for the Convertible Notes, convertible into, or exchangeable for, securities having the right to vote) on any matters on which holders of the Company's voting securities or interests may vote. Each holder of Company Common Stock is an "accredited investor" as such term is defined in Rule 501(a) of the Securities Act.

Section 4.5 Financial Statements; Undisclosed Liabilities.

(a) The Company has made available to Parent copies of (a) the unaudited consolidated financial statements of the Company (including the balance sheet and the related statements of operations, stockholders' deficit and cash flows) as of and for the years ended December 31, 2019, December 31, 2018 and December 31, 2017 and (b) the unaudited consolidated financial statements of the Company as of and for the ten (10) months ended October 31, 2020 (collectively, the "Company Financial Statements"). The Company Financial Statements (x) (including in each case, the notes thereto, if any) present fairly, in all material respects, the combined financial position and results of operations and cash flows of the Company as of the dates thereof and for the periods covered thereby, and (y) have been prepared in accordance with GAAP, consistently applied, subject, in the case of the unaudited Company Financial Statements, to normal year-end adjustments (none of which individually or in the aggregate will be material in amount) and the absence of footnotes. The Company Financial Statements have been prepared from books and records maintained by the Company.

(b) The books of account and other financial records of the Company have been kept accurately in the ordinary course of business consistent with applicable Laws, the transactions entered therein represent bona fide transactions, and the revenues, expenses, assets and liabilities of the Company have been properly recorded therein in all material respects. The Company has established and maintains a system of internal accounting controls that are customary for companies at this stage of development as the Company and are sufficient to ensure (i) the reliability of the Company Financial Statements, (ii) that transactions, receipts and expenditures are executed with appropriate authorization of management, and (ii) that prevent or timely detect unauthorized acquisition, use or disposition of the assets of the Company. Since December 31, 2019, there has been no material change in any accounting controls, policies, principles, methods or practices, including any change with respect to reserves (whether for bad Debts, contingent liabilities or otherwise), of the Company.

(c) The Company does not have any Liabilities except for (i) Liabilities which are adequately reflected or provided for on or disclosed on the face of the most recent balance sheet included in the Company Financial Statements or disclosed in the notes thereto, (ii) current Liabilities incurred in the ordinary course of business since the date of the unaudited balance sheet included in the Company Financial Statements, (iii) obligations to be performed under the executory portion of any Contracts (other than obligations due to breaches or non-performance under such Contracts), or (iv) Liabilities incurred under this Agreement or in connection with the transactions contemplated hereby.

Section 4.6 Absence of Certain Changes. Except as contemplated by this Agreement, between December 31, 2019 and the date of this Agreement, there has not been, occurred or arisen:

(a) except as set forth on Section 4.6(a) of the Company Disclosure Schedule , any event, occurrence, development or state of circumstances or facts that has had or would reasonably be expected to have, individually or in the aggregate, any Material Adverse Effect; or

(b) except as set forth on Section 4.6(b) of the Company Disclosure Schedule, any action, change or event that would have been a violation of Section 6.1 if taken or occurring after the date hereof.

Section 4.7 Taxes.

(a) The Company has timely filed with the appropriate Governmental Authority all income and other material Tax Returns required to be filed by it (taking into account all applicable valid extensions) and all such Tax Returns were complete and accurate in all material respects. All Taxes payable by the Company (whether or not shown as payable on any Tax Return) have been paid, and there are no Encumbrances with respect to Taxes upon any of the assets or properties of the Company, other than Permitted Encumbrances. The Company has made available to Parent accurate and complete copies of all income, franchise, sales, use, VAT and other material Tax Returns filed by, on behalf of, or with respect to, the Company and complete and accurate copies of all audit or examination reports and statements of deficiencies assessed against the Company. No power of attorney has been granted with respect to any matter related to Taxes of the Company that on the Closing Date will be in effect.

(b) The unpaid Taxes of the Company (i) did not, as of date of the Company Financial Statements, exceed the amount of any reserves or accruals specifically identified for Tax liability (not including any reserve for deferred Taxes established to reflect timing differences between book and Tax income) set forth on the Company Financial Statements, and (ii) do not exceed the amount of those reserves or accruals as adjusted for the passage of time through the Closing Date in accordance with applicable Law and the past custom and practice of the Company in filing the Tax Returns. The Company has not incurred any liability for Taxes since the Company Financial Statements outside of the ordinary course of business.

(c) The Company has withheld or collected all Taxes required to have been withheld or collected in connection with any amounts paid or owing to any employee, independent contractor, customer, creditor, stockholder or other third party and timely paid over any such Taxes and other amounts to the appropriate Governmental Authority in accordance with applicable Law.

(d) There are no Tax Proceedings in progress or pending, or, to the Company’s Knowledge, any threatened or contemplated Tax Proceedings by any Governmental Authority and there are no matters relating to Taxes under discussion between any Governmental Authority and the Company.

(e) The Company has never received from any Governmental Authority any written: (i) notice indicating an intent to open an audit or other review with respect to any Tax or any Company Tax Return; (ii) request for information related to Tax matters; or (iii) notice of deficiency or proposed Tax adjustment. The Company has not agreed to any waiver or extension of the statutory period of limitations with respect to a Tax assessment or deficiency, nor has any request been made in writing for any such waiver or extension. No written claim has ever been made by a Governmental Authority in a jurisdiction where the Company does not pay Taxes or file Tax Returns asserting that the Company is or may be subject to Taxes assessed by such jurisdiction.

(f) The Company is not party to, is not bound by, and has no obligation under, any Tax sharing, Tax allocation or Tax indemnity agreement or similar Contract or arrangement, except for customary gross-up or indemnification provisions in credit agreements, derivatives, leases or similar commercial agreements entered into in the ordinary course of business.

(g) The Company does not have any Liability for the Taxes of any other Person (i) under Treasury Regulation Section 1.1502-6 (or any similar provision of state, local, or non-U.S. Law), (ii) as a transferee or successor, or (iii) by Contract, except for customary provisions in credit agreements, derivatives, leases or similar commercial agreements entered into in the ordinary course of business the primary purpose of which is not Taxes. The Company has not been a member of any group of corporations filing Tax Returns on a combined, consolidated, unitary or similar basis (other than with respect to a combined, consolidated, unitary group for Tax purposes for which the common parent was the Company).

(h) The Company has not participated in any "reportable transaction" within the meaning of Treasury Regulation Section 1.6011-4.

(i) The Company has not been a "United States real property holding corporation" within the meaning of Section 897(c)(2) of the Code during the applicable period specified in Section 897(c)(l)(A)(ii) of the Code.

(j) The Company will not be required to include any income or gain or exclude any deduction or loss from taxable income for any Tax period or portion thereof ending after the Closing as a result of (A) any adjustment under Section 481 of the Code (or any corresponding provision of state, local or non-U.S. Tax law) by reason of a change in a method of accounting or use of an improper method of accounting for a taxable period that ends on or prior to the Closing Date, (B) any "closing agreement" within the meaning of Section 7121 of the Code (or any similar provision of applicable state, local or non-U.S. Law) entered into on or prior to the Closing Date, (C) any intercompany transaction (including any intercompany transaction subject to Section 367 or 482 of the Code) or excess loss account described in the Treasury Regulations promulgated pursuant to Section 1502 of the Code (or any corresponding or similar provision of state, local or non-U.S. Law) with respect to a transaction occurring before the Closing, (D) any installment sale or open transaction disposition made on or prior to the Closing Date, (E) any deferred revenue or prepaid amount received on or prior to the Closing Date, or (F) forgiveness of a covered loan under Section 7(a)(36) of the Small Business Act (15 U.S.C. 636(a)), as added by Section 1102 of the CARES Act entered into on or prior to the Closing Date. The Company has not made an election under Section 965(h) or Section 108(i) of the Code (or any corresponding or similar provision of state, local or non-U.S. Law). The Company uses the accrual method of accounting for income Tax purposes.

(k) The Company has not been either a "distributing corporation" or a "controlled corporation" in a transaction intended to be governed by Section 355 of the Code in the two years prior to the date of this Agreement.

(l) Each Company Benefit Plan and other Contract that constitutes in any part a nonqualified deferred compensation plan within the meaning of Section 409A of the Code has been operated and maintained in operational and documentary compliance with Section 409A of the Code and applicable guidance thereunder. No compensation has been or would reasonably be expected to be includable in the gross income of any Service Provider of the Company or any of its Subsidiaries as a result of the operation of Section 409A of the Code. Neither the execution and delivery of this Agreement, nor the consummation of the transactions contemplated hereby, either alone or in combination with another event (whether contingent or otherwise) could result in any "parachute payment" under Section 280G of the Code (or any corresponding provision of state, local, or non-U.S. Tax Law) that is subject to deduction limitations or excise Taxes as a result of the operation of Section 280G of the Code (or any corresponding provision of state, local, or non-U.S. Tax Law).

(m) No compensation has been or would reasonably be expected to be includable in the gross income of any Service Provider of the Company or any of its Subsidiaries as a result of the operation of Section 409A of the Code. Neither the execution and delivery of this Agreement, nor the consummation of the transactions contemplated hereby, either alone or in combination with another event (whether contingent or otherwise) will result in any "parachute payment" under Section 280G of the Code (or any corresponding provision of state, local, or non-U.S. Tax Law) that is subject to deduction limitations or excise taxes as a result of the operation of Section 280G of the Code (or any corresponding provision of state, local, or non-U.S. Tax Law).

(n) The Company is and always has been a domestic corporation taxable under subchapter C of the Code for U.S. federal income Tax purposes. The Company has never had any direct or indirect ownership interest in any trust, corporation, partnership, limited liability company, joint venture or other business entity for U.S. federal income Tax purposes. The Company is not, and has never been, a party to any joint venture, partnership or other arrangement or Contract that would be treated as a partnership for U.S. federal income Tax purposes.

(o) The Company has made available to Parent all documentation relating to all Tax exemptions, Tax holidays, Tax concessions or other Tax reduction agreements or arrangements ("Tax Incentives") applicable to the Company. The Company is in compliance with the requirements for any such Tax Incentive and none of the Tax Incentives are expected to be jeopardized or altered by, or could be subject to clawback or recapture as a result of (i) the transactions contemplated by this Agreement, or (ii) a failure by the Company to satisfy one or more requirements on which such Tax Incentive is, or was, conditioned.

(p) The Company has disclosed on its Tax Returns any Tax reporting position taken in any Tax Return which could reasonably be expected to result in the imposition of penalties under Section 6662 of the Code (or any comparable provisions of state, local or non-U.S. Law). The Company has not (i) consummated or participated in any transaction which was or is a "tax shelter" transaction, as defined in Section 6662 or Section 6111 of the Code or the United States Treasury Regulations promulgated thereunder, or (ii) participated in any "reportable transaction" as defined in Section 6707A(c) of the Code or the Treasury Regulations promulgated thereunder or, in each case, under comparable provisions of other applicable Law.

(q) The Company has in its possession official foreign government receipts for any Taxes paid by it, or paid on its behalf, to any foreign Governmental Authority for which receipts have been provided. The Company does not have, and has never had, a permanent establishment (as defined in any applicable Tax treaty or convention), or otherwise is or has been subject to Tax, in any country other than the country in which it is organized.

(r) No Tax ruling, clearance or consent has been issued to the Company, and the Company has not applied for any Tax ruling, clearance or consent.

(s) All transactions and agreements entered into between the Company and any related parties have been made on arm's length terms in material compliance with the Code and the United States Treasury Regulations thereunder, including Section 482 and United States Treasury Regulations Section 1.6662-6, and any comparable provisions of any state, local or non-U.S. Laws, including the execution and maintenance of contemporaneous documentation to the extent required by such Laws.

(t) None of the shares of Company Capital Stock, Company Warrants or Company Options is a "covered security" within the meaning of Section 6045(g) of the Code, nor are there any shares of Company Capital Stock that were issued in connection with the performance of services and subject to vesting for which no valid and timely election was filed pursuant to Section 83(b) of the Code. The Company has delivered to Parent correct and complete copies of all election statements under Section 83(b) of the Code, together with evidence of timely filing of such election statements with the appropriate Internal Revenue Service center with respect to any shares of Company Capital Stock or other property that was initially subject to a vesting arrangement issued by the Company to any of its employees, non-employee directors, consultants or other service providers.

(u) The Company has collected, remitted and reported to the appropriate taxing authority all sales, use, value added, excise and similar Taxes required to be so collected, remitted or reported pursuant to all applicable Tax laws. The Company has complied in all material respects with all applicable Laws relating to record retention (including to the extent necessary to claim any exemption from Tax collection and maintaining adequate and current resale certificates to support any such claimed exemption).

(v) Except as set forth on Section 4.7(v) of the Company Disclosure Schedule, the Company has (i) not deferred, extended or delayed the payment of the employer's share of any "applicable employment taxes" under Section 2302 of the CARES Act, (ii) properly complied with and duly accounted for all credits received under Sections 7001 through 7005 of the Families First Coronavirus Response Act (Public Law 116-127) and Section 2301 of the CARES Act, and (iii) not sought, and do not intend to seek, a covered loan under Section 7(a)(36) of the Small Business Act (15 U.S.C. 636(a)), as added by Section 1102 of the CARES Act.

Section 4.8 Legal Proceedings; Governmental Orders. There are and, since the Company's date of incorporation, has been no Actions pending by or against or, to the Knowledge of the Company, threatened against, the Company or any executive officer or director of the Company in his or her capacity as such, and the Company is not, and since its date of incorporation, has not been, subject to any Governmental Order that restricts the activities of the Business. To the Knowledge of the Company, no event has occurred, and no claim, dispute or other condition or circumstance exists, that would reasonably be expected to give rise to or serve as a basis for the commencement of any such Action. There is no Action pending by the Company or which the Company intends to initiate against any other Person.

Section 4.9 Compliance with Laws; Permits; Filings.

(a) The Company is, and since its date of incorporation, has been in material compliance with, conducts its Business and research and development activities, including clinical studies, in material compliance with, all applicable Laws. Since the Company's date of incorporation, the Company has not received any written notice from any Governmental Authority to the effect that the Company is not in compliance with any applicable Law.

(b) Except as would not be reasonably expected to have a material impact on the Company, the Company holds, and is operating in compliance with, all Permits that are necessary for the conduct of its Business as presently conducted and as currently proposed to be conducted by the Company. Section 4.9(b) of the Company Disclosure Schedule sets forth a true and complete list of each such Permit. All such Permits are, and since the Company's date of incorporation, have been, valid, and in full force and effect, the Company is not and, since its date of incorporation, has not been in material violation or default of any Permit held by it and the Company has not received any written notification from any Governmental Authority that it intends to or is threatening to revoke, suspend, modify or limit any Permit. The Company has fulfilled and performed all of its obligations with respect to the Permits, and, to the Knowledge of the Company, no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the holder of any Permit.

Section 4.10 Environmental Matters.

(a) The Company complies, and has complied, with all applicable Environmental Laws in all material respects.

(b) There is not now and has not been any Hazardous Materials used, generated, treated, stored, transported, disposed of, or released by the Company from any real property leased or owned by the Company and used in the Business except in material compliance with all applicable Environmental Laws.

(c) The Company has not received any written notice of alleged, actual or potential responsibility for, or any inquiry or investigation regarding, any release or threatened release of Hazardous Materials by the Company or the Company's alleged violation of, or non-compliance with, any Environmental Law.

(d) There are no material Liabilities of the Company arising under or relating to any Environmental Law or any Hazardous Materials and, to the Knowledge of the Company, there is no condition, situation or set of circumstances that would reasonably be expected to result in or be the basis for any such material Liability.

(e) There has been no environmental investigation, study, audit, test, review or other analysis conducted of which the Company has Knowledge in relation to the Business of the Company or any property or facility now or previously owned or leased by the Company that has not been delivered to Parent.

(f) For purposes of this Section 4.10, the term "Company" shall include any entity that is, in whole or in part, a predecessor of the Company.

Section 4.11 Employee Matters and Benefit Plans.

(a) Section 4.11(a) of the Company Disclosure Schedule sets forth a true and complete list of each Company Benefit Plan. Each Company Benefit Plan complies in form and in operation, and has been administered in accordance with, its terms and the applicable requirements of ERISA, the Code and other applicable Law, in all material respects. Other than routine claims for benefits, there is no action, suit, complain, charge, litigation, audit, investigation or proceeding, whether administrative, civil or criminal, in Law or in equity, or before any Governmental Authority or arbitrator (each, a "Proceeding") pending or, to the Knowledge of the Company, threatened or reasonably anticipated against or with respect to an Company Benefit Plan or any fiduciary or service provider thereof and there is no fact or circumstance that would give rise to any such Proceeding.

(b) With respect to each Company Benefit Plan, the Company has provided to Parent true and complete copies, as applicable, of: (i) each such Company Benefit Plan, including all amendments thereto, the most recent summary plan description and summary of material modifications, and any other notice or description provided to employees (as well as any material modifications or amendments thereto), (ii) the most recent determination or opinion letter, if any, issued by the Internal Revenue Service and each currently pending request for such a letter with respect to any Company Benefit Plan that is intended to be qualified under Section 401(a) of the Code, (iii) if such Company Benefit Plan is intended to be qualified under Section 401(a) of the Code, all discrimination tests, if any, required under the Code for such Company Benefit Plan for the three most recent plan years, (iv) the most recent annual report (Form 5500 series) filed with the Internal Revenue Service, (v) any related trust or funding agreements or other material Contracts, and (vi) all filings, records, notices and correspondence to and from Governmental Authority.

(c) Each Company Benefit Plan that is intended to qualify under Section 401(a) of the Code is so qualified and either (i) has received a current favorable determination letter from the Internal Revenue Service as to its qualified status or (ii) may rely upon a current prototype opinion letter from the Internal Revenue Service. No fact or event has occurred that would reasonably be expected to adversely affect or cause the loss of such qualified status. Each trust established in connection with any Company Benefit Plan which is intended to be exempt from federal income taxation under Section 501(a) of the Code is so exempt, and no fact or event has occurred that would reasonably be expected to adversely affect the exempt status of any such trust.

(d) No Company Benefit Plan is, and none of the Company, any of its Subsidiaries, or any of their respective ERISA Affiliates has ever sponsored, maintained, participated in, contributed to, or had any Liability or obligation (contingent or otherwise) with respect to any (i) Multiemployer Plan (as such term is defined in Section 3(37) of ERISA), (ii) other pension plan subject to Title IV or Part 3 of Title I of ERISA or Section 412 of the Code, (iii) "multiple employer plan" (within the meaning of Section 413(c) of the Code), or (iv) multiple employer welfare arrangement (within the meaning of Section 3(40) of ERISA). No Company Benefit Plan provides, and none of the Company, any of its Subsidiaries, or any of their respective ERISA Affiliates has any obligation or Liability to provide any of the following: retiree or post-employment benefits to any Person: medical, accident, disability, life insurance, death or welfare benefits, except as required by the applicable requirements of Section 4980B of the Code or any similar state Law. The obligations of all Company Benefit Plans that provide health, welfare or similar insurance to any employees are fully insured by bona fide third-party insurers.

(e) With respect to each Company Benefit Plan and to the Knowledge of the Company: (i) no breaches of fiduciary duty or other failures to act or comply in connection with the administration or investment of the assets of such Company Benefit Plan have occurred, (ii) no liens, claims, charges, pledges, security interests, Encumbrances or other restrictions and limitations of any kind (collectively, "Liens") have been imposed under the Code, ERISA or any other applicable Law, and (iii) there has been no non-exempt prohibited transaction (within the meaning of Section 406 of ERISA or Section 4975 of the Code).

(f) Except as set forth on Schedule 4.11(f) of the Company Disclosure Schedules, neither the execution and delivery of this Agreement, nor the consummation of the transactions contemplated hereby, either alone or in combination with another event (whether contingent or otherwise) could (i) entitle any current or former Service Provider of the Company or any of its Subsidiaries to any payment; (ii) increase the amount of compensation or benefits due to any such Service Provider or any such group of Service Providers; (iii) limit the right of the Company or any of its Subsidiaries to

amend, merge, terminate or receive a reversion of assets from any Company Benefit Plan or related trust; or (iii) accelerate the vesting, funding or time of payment of any compensation, equity award or other benefit. There is no Contract, agreement, plan or arrangement to which the Company or any of its Subsidiaries is a party which requires the Company or such Subsidiary to pay a Tax gross-up or make a payment to any Person to reimburse such Person, including without limitation, with respect to any Tax-related payments under Section 409A of the Code or Section 280G of the Code.

(g) All payments, benefits, contributions (including all employer contributions and employee salary reduction contributions) and premiums related to each Company Benefit Plan, including all wages, salaries, commissions, bonuses, benefits and other compensation due to or on behalf of any employees or other Service Providers, have been timely paid or made in full or, to the extent not yet due, properly accrued on the balance sheet in accordance with the terms of the Company Benefit Plan and all applicable Laws. No Company Benefit Plan, and none of the Company, any of its Subsidiaries or any Company Benefit Plan fiduciary with respect to any Company Benefit Plan, in any case, is the subject of an audit or investigation by the Internal Revenue Service, the Department of Labor, the Pension Benefit Guaranty Corporation or any other Governmental Authority, nor is any such audit or investigation pending or, to the Company's Knowledge, threatened.

(h) Each of the Company, its Subsidiaries, and each of their respective ERISA Affiliates is, and during all relevant times has been, in compliance in all material respects with the applicable requirements of (i) Section 4980B of the Code and any similar state Law, (ii) the applicable requirements of the Health Insurance Portability and Accountability Act of 1996, as amended, and the Laws (including the proposed regulations) thereunder and (iii) the Patient Protection and Affordable Care Act of 2010, and all rules and official guidance promulgated thereunder, and no circumstance exists or event has occurred, and no circumstance is expected to exist or event expected to occur, which reasonably could be expected to result in a material violation of, or material penalty or Liability under, any of the foregoing.

(i) None of the Company or any of its Subsidiaries has sponsored, maintained, contributed to, or has been required to sponsor, maintain, participate in or contribute to, any employee benefit plan, program, or other arrangement providing compensation or benefits to any employee or former employee (or any dependent thereof) which is subject to the Laws of any jurisdiction outside of the United States.

(j) Each Company Benefit Plan may be amended, terminated, or otherwise modified by the Company to the greatest extent permitted by applicable law, including the elimination of any and all future benefit accruals thereunder and no employee communications or provision of any Company Benefit Plan has failed to effectively reserve the right of the Company or the ERISA Affiliate to so amend, terminate or otherwise modify such Company Benefit Plan. Neither the Company nor any of its ERISA Affiliates has announced its intention to modify or terminate any Company Benefit Plan or adopt any arrangement or program which, once established, would come within the definition of a Company Benefit Plan. Each asset held under each Company Benefit Plan may be liquidated or terminated without the imposition of any redemption fee, surrender charge or comparable liability.

Section 4.12 Labor.

(a) The Company has provided to the Parent a true and correct list, as of the date of this Agreement, containing the names of each current Service Provider and stating for each: (i) name and identification as either a full-time, part-time or temporary employee or independent contractor; (ii) the annual dollar amount of all compensation (including wages, salary, consulting fees, commissions, and bonuses); (iii) dates of hire or engagement;

(iv) title; (v) the employing or contracting entity; (vi) any eligibility to receive severance, notice of termination, retention payment, change of control payment, or other similar compensation; (vii) visa status, if applicable; and (viii) with respect to employees, a designation of whether they are classified as exempt or non-exempt for purposes of the Fair Labor Standards Act, as amended ("FLSA") and any similar state law. The employment or engagement of each Service Provider can be terminated at any time for any reason without notice or payment of severance, termination fee, or other compensation or consideration being owed to such individual other than amounts earned as of the date of termination or as required under applicable Law.

(b) (i) Neither the Company nor any of its Subsidiaries has ever experienced any strike, work stoppage, lockout, or other labor dispute, and to the Knowledge of the Company no such strike, work stoppage, lockout or other labor dispute is currently threatened; (ii) neither the Company nor any of its Subsidiaries has experienced any grievance, claim of unfair labor practices, or other collective bargaining dispute; and (iii) to the Knowledge of the Company, no union organizing activity has been made or threatened by or on behalf of any labor organization, works council, or trade association with respect to employees of the Company or any of its Subsidiaries. Neither the Company nor any of its Subsidiaries is or has at any time been bound by any collective bargaining or similar agreement, and, to the Knowledge of the Company, there are no organizational campaigns, petitions, or other unionization activities seeking to authorize representation of any employee.

(c) Neither the Company nor any of its Subsidiaries has ever taken any action that did, or would be reasonably likely to, require advance notice pursuant to the Worker Adjustment Retraining and Notification Act of 1988, as amended, or any similar Law (collectively, the "WARN Act").

(d) There are no Proceedings against the Company or any of its Subsidiaries pending, or to the Company's Knowledge, threatened to be brought or filed, before any Governmental Authority in connection with the employment or engagement of any Service Provider or applicant for employment, including any claim relating to unfair labor practices, employment discrimination, harassment, retaliation, equal pay, with respect to payment of wages, salary or overtime pay or any other similar employment related matter arising under applicable employment Laws.

(e) Each of Company and each of its Subsidiaries is, and has been , in compliance in all material respects with all applicable Laws relating to employment and employment practices, including, but not limited to, Laws related to workers' compensation, terms and conditions of employment, worker classification, wages and hours, discrimination, immigration, collective bargaining, and the WARN Act. All current and former employees of the Company and its Subsidiaries have provided documentation evidencing their authorization under applicable immigration Laws to be employed by the Company and the Company has obtained and maintained valid Form I9s for each such current and former employee in accordance with applicable Law. The Company and each of its Subsidiaries have properly classified their respective Service Providers as "employees" or "independent contractors" and as "exempt" or "non-exempt" for all purposes and have properly paid and reported all compensation paid to such Service Providers for all purposes.

(f) To the Knowledge of the Company, (i) no allegations of discrimination, retaliation, sexual harassment, or similar misconduct have been made against (A) the Key Employee or any officer, or director of the Company or its Subsidiaries or (B) any Service Provider who, directly or indirectly, supervises other employees of the Company, and (ii) the Company has not entered into any settlement agreement or conducted any investigation related to allegations of sexual harassment or sexual misconduct by an employee, contractor, director, officer or other representative of the Company.

Section 4.13 Intellectual Property.

(a) Section 4.13(a) of the Company Disclosure Schedule sets forth a true and complete list of all Company Owned Intellectual Property that has been registered, issued, or otherwise granted by, or for which an application for registration, issue, or grant is pending with, a Governmental Authority.

(b) To the Company's Knowledge, (i) the conduct of the Business of the Company as currently conducted does not infringe upon, misappropriate, violate or otherwise constitute the unauthorized use of, the Intellectual Property rights of any Person; and (ii) no claim is pending or threatened against the Company alleging any of the foregoing, and there are no facts or circumstances that would reasonably be likely to provide a basis for any such claim; and (iii) the Company owns or has valid rights to use any Intellectual Property used by the Company in the conduct of the Business of the Company as currently conducted. All Company Owned Intellectual Property is either (x) owned by, or subject to an obligation of assignment to, the Company, free and clear of all Encumbrances (other than Permitted Encumbrances) or other exceptions to title that restrict use by the Company of its Intellectual Property in any way or require the Company to make any payment or give anything of value as a condition to use in any way of such Intellectual Property, or (y) licensed to the Company free and clear of all Encumbrances (other than Permitted Encumbrances). To the Company's Knowledge, there are no Patents of any third party known to be dominating, interfering or potentially dominating or interfering, with the Patents included in the Company Owned Intellectual Property or that could be asserted by a Person to: (A) exclude or prevent the Company from practicing the Patents included in the Company Owned Intellectual Property, (B) to conduct the Business of the Company as currently conducted (including with respect to the research, development, testing, manufacture, use and other disposition and exploitation of the Company Product), or (C) except as set forth in Section 4.13(b) of the Company Disclosure Schedule, exclude or prevent the Company from launching or commercializing any Company Product (or manufacturing any Company Product for such commercialization). Notwithstanding anything to the contrary, this Section 4.13(b) sets forth the only representation or warranty of the Company with respect to the violation of the Intellectual Property rights of any third party.

(c) None of the Patents included in the Company Owned Intellectual Property is the subject of any litigation, reissue, interference, inter partes review, post grant review, reexamination, or opposition proceeding, and to the Company's Knowledge, there has been no written threat that any such proceeding will hereafter be commenced. To the Company's Knowledge, the Patents included in the Company Owned Intellectual Property (excluding patent applications) (i) are valid and enforceable, (ii) have not been adjudged invalid or unenforceable in whole or in part, (iii) are not undergoing cancellation, inter partes review, post grant review, re-examination, termination or withdrawal proceedings and (iv) have been properly obtained in accordance with all applicable rules and regulations governing the prosecution of applications for such Patent.

(d) All Company Owned Intellectual Property that has been registered with a Government Authority has been filed, prosecuted and maintained in good faith and in a commercially reasonable manner and in compliance with applicable Law. To the Company's Knowledge all Company Intellectual Property (other than pending Patent applications and pending Trademark applications) is valid and enforceable and in full force and effect as of the date hereof, and has not lapsed, been abandoned, been disclaimed, been canceled or been forfeited, in whole or in part, and, to the Company's Knowledge, there are no facts or circumstances that would reasonably be likely to provide a basis for abandonment, invalidity, cancellation, forfeiture, or unenforceability (including the appropriate and timely filing of information disclosure statements with the United States Patent and Trademark Office). No Company Owned Intellectual Property has been or is subject to any cancellation, nullification, inter partes review, post grant review, interference, conflict, concurrent use or opposition proceeding, reissue, reexamination, invalidity, or other similar proceeding challenging the scope,

validity, priority, duration, inventorship, ownership, registerability, effectiveness, use or right to use any of the Company Owned Intellectual Property and to the Company's Knowledge there has been no threat that any such proceeding will hereafter be commenced. Neither the Company nor any of its Representatives engaged in prosecuting the Company Owned Intellectual Property has engaged in any fraud, or violation of 37 C.F.R. §1.56, with regard to the prosecution or procurement of the Patents included in the Company Owned Intellectual Property.

(e) There have not been any, nor are there any Actions pending, or, to the Company's Knowledge, threatened against the Company (i) challenging or seeking to deny or restrict the use by the Company of the Company Owned Intellectual Property or (ii) alleging that any services provided by, processes used by, or Company Products or product candidates being developed by the Company in relation to its Business as currently conducted infringe or misappropriate any Intellectual Property right of any third party.

(f) All application fees, maintenance fees, annuity fees, renewal fees or other similar payments to any Governmental Authority for each jurisdiction in which each Patent, Patent application, Trademark, Trademark application, trade name, trade name registration, brand name, brand name registration, service mark, service mark registration, Copyright, Copyright application, domain name or domain name application, whether issued or pending, that is included within the Company Owned Intellectual Property has issued or is pending have been timely paid and all necessary documents and certificates in connection therewith have been filed with the relevant Governmental Authority for the purpose of maintaining such registrations or applications.

(g) To the Knowledge of the Company, (i) no Person is engaging in any activity that infringes, dilutes, violates or misappropriates the Company Owned Intellectual Property; (ii) no such claims or assertions have been made against a Person by or on behalf of the Company or by or on behalf of the owner or licensor of any Intellectual Property exclusively licensed to the Company; and (iii) there are no facts or circumstances that would reasonably be likely to provide a basis for any such claims or assertions.

(h) The Company has used commercially reasonable efforts to maintain, protect, and preserve the security, confidentiality, value and ownership of all trade secrets or confidential information included in the Company Intellectual Property, including by requiring employees and consultants, and any other Person to whom Company has provided access to such trade secrets and confidential information to execute a reasonably customary confidentiality agreement. To the Knowledge of the Company, no current or former employees or consultants, and no other Person is in violation in any material respect of any such confidentiality agreements. To the Knowledge of the Company, there has been no misappropriation of any trade secrets or other confidential information of the Company with respect to its Business.

(i) The Company has not (i) transferred ownership of, (ii) granted any exclusive license of, right to use or option to license or use, (iii) authorized the retention of any exclusive rights to use, or (iv) authorized joint ownership of any owned Company Owned Intellectual Property.

(j) All past and present employees, officers, consultants and independent contractors of the Company who are, or have been, involved in the creation or development of Company Owned Intellectual Property have executed written agreements pursuant to which such Persons have assigned to the Company all their rights in and to all Intellectual Property arising out of or relating to such Person's activities with respect to the Company's Business. To the Knowledge of the Company, no such officers, employees, consultants and independent contractors of the Company are in violation of such agreements.

(k) Section 4.13(k) of the Company Disclosure Schedule sets forth a true and accurate list of all Contracts to which the Company is a party relating to any right in, to or under any Company Intellectual Property (including all licenses, options, settlement agreements, coexistence agreements, consent agreements, assignments, security interests) that have been granted (i) to the Company (other than off-the-shelf, shrink-wrap, or click-wrap licenses and/or other licenses for commercially available software with annual license fees under Fifty Thousand Dollars ($50,000), employee assignment agreements, nondisclosure agreements, consulting agreements, material transfer agreements, clinical trial agreements, evaluation agreements and licenses or restricted use provisions that arise out of the purchase of reagents from suppliers or through catalogs), or (ii) by the Company to any other Person (other than agreements commonly generated in the ordinary course of business, including customary non-disclosure agreements and customary powers of attorney granted to the Company's patent prosecution counsel solely for purposes of representing the Company before the United States Patent and Trademark Office or its foreign equivalent). The Company is in compliance with the terms of all such agreements and other obligations and, with respect to sublicenses, to the Knowledge of the Company, the Company's licensor is in compliance in all material respects with all agreements granting such Intellectual Property rights to such licensor. The Company has not entered into any Contract (i) granting any Person the right to bring infringement actions with respect to, or otherwise to enforce rights with respect to, any of the Company Owned Intellectual Property, (ii) expressly agreeing to indemnify any Person against any charge of infringement of any of the Company Intellectual Property, or (iii) granting any Person the right to control the prosecution of any of the Company Owned Intellectual Property except as set forth in Section 4.13(k) of the Company Disclosure Schedule. The Company has not assigned, transferred, conveyed, or granted any licenses (or options to any licenses) to Intellectual Property that would have been Company Intellectual Property, but for such assignment, transfer, conveyance, license or option grant. The execution and delivery of this Agreement by the Company and the consummation of the transactions contemplated by this Agreement (alone or in combination with any other event) and the compliance with the provisions of this Agreement do not and will not (i) result in the breach of, or create on behalf of any third party the right to terminate or modify, (A) any license, sublicense or other agreement relating to any Company Intellectual Property owned by the Company, (B) to the Knowledge of the Company, any third party Intellectual Property or (C) any license, sublicense or other agreement as to which the Company is a party and pursuant to which any third party is authorized by the Company to use any third party Intellectual Property, or (ii) otherwise conflict with, alter, or impair, any of the rights of the Company in any of the Company Intellectual Property, or the validity, enforceability, use, right to use, ownership, priority, duration, scope or effectiveness of any of the Company Owned Intellectual Property.

(l) Except as set forth in Section 4.13(l) of the Company Disclosure Schedule, there are no agreements, arrangements or understandings (including all licenses, options, settlement agreements, coexistence agreements, consent agreements, assignments, security interests), in each case, whether written or oral, pursuant to which the Company is obligated to make payments or provide other consideration (in any form, including royalties, profit-share revenue, milestones, sublicense revenue and other contingent payments) to third parties for use of any Intellectual Property, and all money currently due and payable in connection with such agreements, arrangements and understandings have been satisfied in a timely manner. Section 4.13(l) of the Company Disclosure Schedule sets forth a list and description of any payments or other consideration (in any form, including royalties, profit-share revenue, milestones, sublicense revenue and other contingent payments) required to be made by the Company to any third party for use of any Intellectual Property pursuant to the terms of any agreements, arrangements and understandings set forth in Section 4.13(l) of the Company Disclosure Schedule.

(m) No Governmental Authority has any right to (including any "step-in" or "march-in" rights with respect to), ownership of, or right to royalties or other payments for, or to impose any requirement on the manufacture or commercialization of any product incorporating, any Company Intellectual Property owned or exclusively licensed to the Company. Without limiting the generality of the foregoing, to the Knowledge of the Company, no invention claimed or covered by any Valid Patent Right within the Company Owned Intellectual Property (i) was conceived or reduced to practice in connection with any research activities funded, in whole or in part, by the federal government of the United States or any agency thereof, (ii) is a "subject invention" as that term is described in 35 U.S.C. Section 201(e) or (iii) is otherwise subject to the provisions of the Bayh-Dole Act or any similar Law of any other jurisdiction, including with respect to any Valid Patent Rights that are part of the Company Owned Intellectual Property. No funding, facilities, or Service Provider of any educational or research institution were used, directly or indirectly, to develop or create in whole or in part, any of the Company Intellectual Property, and no educational institution has any right to, or right to royalties for, or to impose any requirement on the manufacture or commercialization of any product incorporating, any Intellectual Property that is, or is purportedly, owned by the Company.

Section 4.14 Material Contracts.

(a) Section 4.14(a) of the Company Disclosure Schedule lists each of the following Contracts (other than Company Benefit Plans and other than Contracts with respect to the Company Intellectual Property or Leased Real Property) that is currently in effect to which the Company is a party or by which it is bound as of the date of this Agreement (each, a "Company Material Contract" and collectively, the "Company Material Contracts"):

(i) any indenture, credit agreement, loan agreement, security agreement, guarantee, note, mortgage or other evidence of Debt or agreement providing for Debt;

(ii) any Contract containing a covenant not to compete restricting the ability of the Company to compete in any line of business or in geographic area or during any period of time;

(iii) any Contract which creates a partnership or joint venture or similar arrangement;

(iv) each Lease;

(v) any stockholders, investors rights or similar Contracts;

(vi) any collective bargaining or other similar labor or union Contracts;

(vii) any Contract providing for retention payments, change of control payments, accelerated vesting or any other payment or benefit to any Person that may or will become due as a result of any of the transactions contemplated by this Agreement;

(viii) any offer letter, employment agreement, independent contractor agreement, consulting agreement, or similar Contract with any current Service Provider that is not immediately terminable at-will by the Company without notice, severance, or other cost or liability;

(ix) any Contract relating to the acquisition, transfer, use, development, sharing or license of any Intellectual Property, other than confidentiality agreements, employment agreements, consulting agreements, material transfer agreements, clinical trial agreements and off-the-shelf, shrink-wrap, or click-wrap licenses and/or other licenses for commercially available software with annual license fees under Fifty Thousand Dollars ($50,000);

(x) any Contracts, other than Contracts made in connection with this Agreement, relating to (i) the disposition of the Business or any assets of the Company (other than sales of inventory in the ordinary course of business), (ii) the purchase or sale or transfer of any outstanding Company Capital Stock, (iii) any merger, consolidation or business combination involving the Company, or (iv) restructuring or sale of the Company, its assets or the Business;

(xi) any Contract that contains an option granted by the Company (other than a Company Option or Company Convertible Notes) or the grant by the Company of any right of first refusal or right of first offer, right of first negotiation or similar right in favor of a party other than the Company or that limits or purports to limit the ability of the Company to own, operate, sell, transfer, pledge or otherwise dispose of any material amount of assets or businesses;

(xii) any Contracts under which the Company has agreed to indemnify third parties (other than in the ordinary course of business) or which provide for earnouts or other contingent liabilities;

(xiii) any Contract under which (A) any Person has directly or indirectly guaranteed any liabilities or obligations of the Company or (B) the Company has guaranteed liabilities or obligations of any other Person (in each case other than endorsements for the purposes of collection in the ordinary course of business consistent with past practice);

(xiv) any Contract with any Related Person other than confidentiality agreements, employment agreements, employment offer letters or consulting agreements entered into in the ordinary course of business consistent with past practice or Contracts relating to the issuance of Company Options or Company Capital Stock;

(xv) any agreements which purport to bind Affiliates of the Company to any material obligation;

(xvi) Contracts (pursuant to which the Company or any other party thereto has continuing obligations) involving the payment of royalties or other amounts calculated based upon the revenues or income of the Company or income or revenues related to any Company Product;

(xvii) each joint development agreement, joint venture agreement, collaboration agreement or similar such Contract relating to any Company Product;

(xviii) each Contract pursuant to which a third party manages or provides services in connection with clinical trials relating to any Company Product;

(xix) each Contract (i) in which the Company has granted to a third party development rights, “most favored nation” pricing provisions or marketing or distribution rights relating to any Company Product or (ii) in which the Company has agreed to purchase a minimum quantity of goods relating to any Company Product or has agreed to purchase goods relating to any Company Product exclusively from a certain third party;

(xx) each Contract pursuant to which the Company obtains the Company Products or any components thereof;

(xxi) any Contract explicitly requiring payments by the Company in excess of One Hundred Thousand Dollars ($100,000) in the current fiscal year;

(xxii) any Contract with a Governmental Authority that the Company reasonably expects to result in payments in excess of One Hundred Thousand Dollars ($100,000) in any twelve (12) month period after the Closing Date;

(xxiii) any Contract explicitly providing for receipts by the Company in excess of One Hundred Thousand Dollars ($100,000) in the current fiscal year;

(xxiv) all Contracts involving the payment of royalties or other amounts calculated based upon the revenues or income of Company, or income or revenues related to any Company Product, where such payments are expected to exceed Fifty Thousand Dollars ($50,000) in the twelve (12) month period following the date hereof;

(xxv) any Contract: (1) relating to the employment of, or the performance of services by, any employee, contractor, salesperson, or consultant of the Company or its Subsidiaries, other than any at-will employment or services agreement providing no severance or other-post-termination benefits (other than continuation coverage required by law); or (2) pursuant to which the Company or its Subsidiaries is or may become obligated to make any severance, termination or similar payment to any current or former employee, director of the Company, individual consultants, contractors, or sales persons; or (3) pursuant to which the Company is or may become obligated to make any bonus or similar payment (other than payments constituting base salary) in excess of One Hundred Thousand Dollars ($100,000) to any current or former employee, director, individual consultants, contractors, or sales persons; and

(xxvi) all Contracts with Major Suppliers.

(b) Neither the Company, nor to the Knowledge of the Company, any other party to any Company Material Contract, is in material breach of or default under any Company Material Contract and, to the Knowledge of the Company, no event has occurred that (with or without notice or lapse of time) will, or would reasonably be expected to (i) result in a material violation, breach or penalty under any of the provisions of any Company Material Contract, (ii) give any Person the right to declare a material default or exercise any remedy under any Company Material Contract, (iii) give any Person the right to accelerate the maturity or performance of any such Company Material Contract, or (iv) give any Person the right to cancel, terminate or modify any Company Material Contract. The Company has not received any written notice or claim of any breach or default from the counterparty to any Company Material Contract. Each Company Material Contract is in full force and effect and is valid, binding and enforceable against the Company in accordance with its terms, subject to the Enforceability Exceptions. True and complete copies of each written Company Material Contract have been made available to Parent prior to the date of this Agreement.

Section 4.15 Real Property. The Company does not own any real property. Section 4.15 of the Company Disclosure Schedule sets forth a true and complete list of all of the real property that is leased by the Company (the "Leased Real Property"). The Company has a valid, binding and enforceable leasehold interest in each Leased Real Property as provided in the applicable lease (a "Lease"), free and clear of any Encumbrances other than Permitted Encumbrances. The Company (a) is not in violation of any Lease and (b) has not been informed in writing that the lessor under any Lease has taken action or threatened to terminate the Lease before the expiration of the Lease, and, to the Knowledge of the Company, no other party to any Lease is in violation of such Lease. The Company has not assigned any Lease or subleased, sublicensed, or otherwise granted to any Person, the right to use or occupy any Leased Real Property.

Section 4.16 Company Property.

(a) The Company has good and marketable, indefeasible, fee simple title to, or in the case of leased property and assets, has valid leasehold interests in, all tangible personal property and tangible assets reflected on the latest balance sheet included in the Company Financial Statements or acquired after August 31, 2020, except for properties and assets sold since such date in the ordinary course of business consistent with past practices. None of such tangible property or tangible assets is subject to any Encumbrances (other than Permitted Encumbrances).

(b) All leases of personal property are in good standing and are valid, binding and enforceable against the Company in accordance with their respective terms and, to the Knowledge of the Company, there does not exist under any such lease any default or any event which with notice or lapse of time or both would constitute a default.

(c) The equipment owned by the Company has no material defects, is in good operating condition and repair and has been reasonably maintained consistent with standards generally followed in the industry (giving due account to the age and length of use of same, ordinary wear and tear excepted), and is adequate and suitable for its present uses.

(d) All of the inventory of the Company is in good condition and free of any material defect or deficiency, is not obsolete, is useable or saleable in the ordinary course of business and, if saleable, is saleable at customary gross margins consistent with the past practices of the Company. The inventory levels maintained by the Company (i) are not excessive in light of their normal operating requirements and (ii) are adequate for the conduct of the Company's operations in the ordinary course of business. The value of all items of obsolete and of below standard quality has been written down to the net realizable value or adequate reserves have been provided therefor.

(e) The tangible property and tangible assets owned or leased by the Company, or which it otherwise has the right to use, constitutes all of the tangible property and tangible assets used or held for use in connection with the Business and are adequate to conduct such Business as currently conducted.

Section 4.17 Insurance. Section 4.17 of the Company Disclosure Schedule sets forth a true and complete list of all insurance policies relating to the assets, Business, operations, employees, officers or directors of the Company. The Company has made available to Parent true and complete copies of all such policies. All such policies are in full force and effect, and all premiums due and payable with respect thereto covering all periods have been paid, and no notice of pending cancellation or termination has been received with respect to any such policy. There are no pending claims under any such policies. Such policies are of the type and in amounts customarily carried by Persons conducting businesses similar to those of the Company.

Section 4.18 Finder's Fee. Except as detailed and set forth in Section 4.18 of the Company Disclosure Schedule (for each Person identified therein, an accurate and complete copy of whose engagement agreement has been provided to Parent and whose fees and expenses shall be treated as an Unpaid Company Transaction Expense hereunder), the Company has not incurred any Liability to any party for any brokerage, investment bankers' or finders' fees or commissions in connection with the transactions contemplated by this Agreement.

Section 4.19 Affiliate Transactions. Other than as set forth in Section 4.19 of the Company Disclosure Schedule, no present or former director, officer, employee, record or beneficial owner of five percent (5%) or more of the Company Capital, Affiliate or "associate", or members of any of their "immediate family" (as such terms are respectively defined in Rule 12b-2 and Rule 16a-1 of the Exchange Act), of the Company (each of the foregoing, a "Related Person"), other than in its capacity as a director, officer or employee of the Company (i) is or was involved, directly or indirectly, in any business arrangement, transaction, Contract or other relationship (whether written or oral) with the Company or any assets or property thereof, (ii) directly or indirectly owned or owns, or otherwise had or has any right, title, claim, interest in, to or under, any asset, property or right, tangible or intangible, that is used by the Company (iii) is or was engaged, directly or indirectly, in the conduct of the Business of the Company, (iv) has any claim or cause of action against the Company or (v) owes any money to, or is owed any money by, the Company, other than for advances made to directors or officers of the Company in the ordinary course of business to meet reimbursable business expenses reasonably anticipated to be incurred by such individuals.

Section 4.20 Privacy and Information Security.

All Personal Data that is used in or necessary for the conduct of the Business of the Company may be used by the Surviving Corporation or the Surviving Company in the same manner as used by the Company as of the date of this Agreement and may be transferred and processed by the Surviving Corporation or Surviving Company as contemplated under this Agreement. Further, the Company represents that it is not a covered entity or business associate, as those terms are defined under HIPAA, nor is the Company subject to any business associate contract as described under HIPAA. To the Company's Knowledge, the Company has not experienced any material security breach or other incident resulting in the unauthorized access, use, or disclosure of Personal Data or other Company data, systems, or facilities.

Section 4.21 Regulatory Matters.

(a) The Company is and, since its date of incorporation, has been in material compliance with all Health Care Laws applicable to the Company or any assets owned or used by the Company, and the Company has not, since its date of incorporation, engaged in activities which are, as applicable, cause for civil penalties, or mandatory or permissive exclusion from any government healthcare program. The Company has not received any notification, correspondence or any other written or oral communication, including notification of any pending or threatened Action from any court, arbitrator, third-party or Governmental Authority, including, without limitation, the FDA, the Centers for Medicare & Medicaid Services, the U.S. Department of Justice, or the U.S. Department of Health and Human Services Office of Inspector General, of potential or actual non-compliance by, or Liability of, the Company under any Health Care Laws, and to the Company's Knowledge, no such Action is threatened. To the Company's Knowledge, there are no facts or circumstances that would reasonably be expected to give rise to Liability of the Company under any Health Care Laws. The Company is not a party to and does not have any ongoing reporting obligations pursuant to or under any Order or corporate integrity agreements, deferred prosecution agreements, monitoring agreements, consent decrees, settlement orders, plans of correction or similar agreements with or imposed by any Governmental Authority.

(b) All Company Products are being, and at all times have been, developed, tested, labeled, manufactured, stored, imported, exported and distributed, as applicable, in compliance in all material respects with all applicable Laws, including, to the extent applicable, the Health Care Laws administered by the FDA, and all similar Laws of any other jurisdiction applicable to the Company or the Company Products, including, as applicable, those requirements relating to current good manufacturing practices, good laboratory practices and good clinical practices.

(c) The clinical, pre-clinical and other studies and tests conducted by or on behalf of or sponsored by the Company or in which the Company or the Company Products have participated were and, if still pending, are being conducted in all material respects in accordance with standard medical and scientific research procedures and all applicable Laws, including, but not limited to, the Federal Food, Drug and Cosmetic Act and its applicable implementing regulations at 21 C.F.R. Parts 50, 54, 56, 58 and 312. No investigational new drug application filed by or on behalf of the Company with the FDA has been placed on clinical hold by the FDA, and neither the FDA nor any other Governmental Authority has commenced, or, to the Knowledge of the Company, threatened to initiate, any action to place a clinical hold order on, or otherwise terminate, delay or suspend, any proposed or ongoing clinical investigation conducted or proposed to be conducted by or on behalf of the Company.

(d) Neither the Company, nor to the Knowledge of the Company any of its officers, employees or agents, has been convicted of any crime or engaged in any conduct that has resulted, or would reasonably be expected to result, in exclusion, suspension, debarment or ineligibility to participate in any government program under applicable Law, including, 21 U.S.C. Section 335a, and 42 U.S.C. 1320a-7. No Orders or Actions that would reasonably be expected to result in such a debarment, suspension, ineligibility, or exclusion of the Company are pending or, to the Company's Knowledge, threatened, against the Company or any of its officers, employees, or agents.

(e) The Company has not had any Company Product or manufacturing site (whether Company-owned or that of a Contract manufacturer for the Company Products) subject to a Governmental Authority (including FDA or other Governmental Authority) shutdown or import or export prohibition, nor has the Company received any warning letter or untitled letter, report of inspectional observations, including FDA Form 483s, establishment inspection reports, notices of violation, clinical holds, enforcement notices, recall notices or other documents from any Governmental Authority, or any domestic or foreign institutional review board, privacy board or ethics committee approving any clinical trial involving any Company Product (a "Review Board") or similar body, alleging a lack of compliance by the Company with any applicable Laws, Permits, or requests or requirements of a Governmental Authority, and to the Knowledge of the Company, no Governmental Authority is considering such action.

(f) Section 4.21(f) of the Company Disclosure Schedule sets forth a list of (i) all recalls, field notifications, field corrections, market withdrawals or replacements, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of the Company Products ("Safety Notices") since the Company's date of incorporation; (ii) the dates such Safety Notices, if any, were resolved or closed; and (iii) to the Company's Knowledge, any material complaints with respect to the Company Products that are currently unresolved. To the Company's Knowledge, there are no facts that would be reasonably likely to result in (i) a material Safety Notice with respect to the Company Products, (ii) a material change in labeling of any the Company Products; or (iii) a termination or suspension of marketing or testing of any the Company Products.

(g) The Company has made available to Parent complete and accurate copies of (i) all material filings with the FDA, EMA or equivalent Governmental Authority relating to all Company Products, (ii) all material correspondence with the FDA, EMA or equivalent Governmental Authority relating to all Company Products and (iii) all material data, information, results, analyses, publications, and reports relating to all Company Products, including all clinical trial protocols, trial statistical analysis plans and published trial results (collectively, the "Material Product and Trial Information"). The Material Product and Trial Information is a true and correct representation in all material respects of the matters reflected therein.

(h) The registration and regulatory files, dossiers and supporting materials of the Company with respect to the Company Products have been maintained in all material respects in accordance with all applicable Law, industry standards, and the Company's standard operating procedures. None of the material filings made by the Company with the FDA, EMA, an equivalent Governmental Authority or with any Review Board relating to

any Company Product contained any untrue statement of a material fact or fraudulent statement or omitted to state any material fact necessary to make the statements therein not misleading, and neither the Company nor any of its officers, employees or, to the Company's Knowledge, agents has committed any other act, or made a statement, or failed to make a statement that would reasonably be expected to provide a basis for the FDA or any other Governmental Authority to invoke its policy respecting "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities" set forth in 56 Fed. Reg. 46191 (September 10, 1991) or any similar policy.

Section 4.22 Anticorruption Matters; Export Controls and Sanctions Matters.

(a) Neither the Company, nor any of the Representatives of the Company acting on its behalf has, directly or indirectly, (i) taken any action in violation of any applicable anticorruption Law, including the U.S. Foreign Corrupt Practices Act ("FCPA") (15 U.S.C. § 78 dd-1 et seq.), or (ii) offered, paid, given, promised to pay or give, or authorized the payment or gift of anything of value, directly or indirectly, to any Public Official, for purposes of (A) influencing any act or decision of any Public Official in his or her official capacity, (B) inducing such Public Official to do or omit to do any act in violation of his lawful duty, (C) securing any improper advantage or (D) inducing such Public Official to use his or her influence with a Governmental Authority, or commercial enterprise owned or controlled by any Governmental Authority (including state-owned or controlled veterinary or medical facilities), in order to assist the Company or any Person related to the Company, in obtaining or retaining business. None of the Representatives of the Company are themselves Public Officials. There have been no false or fictitious entries made in the books or records of the Company relating to any payment that the FCPA prohibits, and the Company has not established or maintained a secret or unrecorded fund for use in making any such payments. The Company does not have knowledge of any pending issues with respect to violation of any applicable anticorruption Law, including the FCPA, relating to the Company.

(b) Neither the Company, nor any of the Representatives of the Company acting on its behalf has, directly or indirectly, taken any action in violation of any applicable export control Law, trade or economic sanctions Law, or antiboycott Law, in the U.S. or any other jurisdiction, including: the Arms Export Control Act (22 U.S.C.A. § 2278), the Export Administration Act (50 U.S.C. App. §§ 2401-2420), the International Traffic in Arms Regulations (22 C.F.R. 120-130), the Export Administration Regulations (15 C.F.R. 730 et seq.), the Office of Foreign Assets Control Regulations (31 C.F.R. Chapter V), the Customs Laws of the United States (19 U.S.C. § 1 et seq.), the International Emergency Economic Powers Act (50 U.S.C. § 1701-1706), the U.S. Commerce Department antiboycott regulations (15 C.F.R. 560), the U.S. Treasury Department antiboycott requirements (26 U.S.C. § 999), any other export control regulations issued by the agencies listed in Part 730 of the Export Administration Regulations, or any applicable non-U.S. Laws of a similar nature. Neither the Company, nor any of the Representatives of the Company acting on its behalf, is listed on the U.S. Office of Foreign Assets Control "Specially Designated Nationals and Blocked Persons" or any other similar list.

Section 4.23 Major Suppliers. Section 4.23 of the Company Disclosure Schedule lists the ten (10) largest suppliers (measured by invoiced dollars) of the Business for the fiscal year ending December 31, 2020 ("Major Suppliers") and the dollar amount of business conducted to date with each Major Supplier in such year. The Company is not engaged in any dispute with any Major Supplier, the Company is not in material breach of or in material default of any Contract with any of the Major Suppliers, to the Company's Knowledge, no Major Supplier intends to cancel or otherwise substantially modify its relationship with the Company or to decrease materially or limit its services, supplies or materials to the Company, and to the Company's Knowledge, the consummation of the transactions contemplated hereby will not adversely affect the relationship of Parent or the Surviving Company with any Major Supplier.

Section 4.24 Products Liability.

(a) No claim has been made or, to the Company's Knowledge, threatened in connection with the product liability of any Company Product and no Governmental Authority has commenced or, to the Company's Knowledge, threatened to initiate any Action or requested the recall of any Company Product, or commenced or, to the Company's Knowledge, threatened to initiate any Action to enjoin the production of any Company Product.

(b) The Company Products supplied by the Company have complied with all Laws and with all government, trade association and other mandatory and voluntary requirements, specifications and other forms of guidance.

(c) No Company Product developed, used, manufactured or sold by the Company prior to the Effective Time contained any material quality, design, engineering, manufacturing or safety defect at the time of sale that materially and adversely affects the use, functionality or performance of such Company Product in a manner materially inconsistent with industry quality standards.

Section 4.25 Exclusivity of Representations of the Company. Except as expressly set forth in this Article IV and the Company Certificate, neither the Company nor any Person on behalf of Company has made, nor are any of them making, any representation or warranty, written or oral, express or implied, at law or in equity, including with respect to merchantability or fitness for any particular purpose, in respect of the Company or the Company's business, including any representations or warranties about the accuracy or completeness of any information or documents previously provided, and any other such representations and warranties are hereby expressly disclaimed.

Section 4.26 Reliance. The Company expressly acknowledges and agrees that, except as set forth in Article V of this Agreement and the Parent Certificate, none of Company, the Equityholders or any of their respective representatives is relying on any other representation or warranty of Parent, Merger Sub, Merger LLC or any other Person, including regarding the accuracy or completeness of any such other representations or warranties or the omission of any material information, whether express or implied.

ARTICLE V
REPRESENTATIONS AND WARRANTIES OF PARENT, MERGER SUB AND MERGER LLC

Contemporaneously with the execution and delivery of this Agreement by the Company, Parent, Merger Sub and Merger LLC, Parent shall deliver to the Company a confidential disclosure schedule (the "Parent Disclosure Schedule"). Parent, Merger Sub and Merger LLC hereby jointly and severally represent and warrant to the Company, as of the date hereof and as of the Closing, as follows:

Section 5.1 Organization. Each of Parent, Merger Sub and Merger LLC (a) is duly organized, validly existing and in good standing under the Laws of the jurisdiction of its incorporation or formation, as applicable, (b) has all requisite power and authority to carry on its business as it is now being conducted and (c) is duly qualified to do business and is in good standing in each of the jurisdictions in which the ownership, operation or leasing of its properties and assets and the conduct of its business requires it to be so qualified, licensed or authorized, except for those jurisdictions where the failure to be so qualified, licensed or authorized would not have a Material Adverse Effect on Parent or materially impair the ability of Parent, Merger Sub and Merger LLC to consummate the transactions contemplated by this Agreement. True and complete copies of the Organizational Documents of Parent, Merger Sub and Merger LLC, as amended and in effect as of the date of this Agreement, have been made available to Company.

Section 5.2 Authority. Each of Parent, Merger Sub and Merger LLC has all necessary corporate power and authority to enter into this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated by this Agreement. The execution and delivery of this Agreement by each of Parent, Merger Sub and Merger LLC, the performance by each of Parent, Merger Sub and Merger LLC of its respective obligations hereunder, and the consummation by each of Parent, Merger Sub and Merger LLC of the transactions contemplated by this Agreement, have been duly authorized by the Board of Directors (or equivalent governing body) of each of Parent, Merger Sub and Merger LLC, and no other corporate action on the part of Parent, Merger Sub or Merger LLC is necessary to authorize the execution and delivery of this Agreement by Parent, Merger Sub or Merger LLC, the performance by Parent, Merger Sub or Merger LLC of its respective obligations hereunder or the consummation by Parent, Merger Sub or Merger LLC of the transactions contemplated by this Agreement, other than the approval of the transactions contemplated by this Agreement by Parent in its capacity as sole stockholder of Merger Sub and sole membership interest holder of Merger LLC. This Agreement has been duly executed and delivered by each of Parent, Merger Sub and Merger LLC, Merger Sub and Merger LLC and (assuming due authorization, execution and delivery by the other Parties to this Agreement) constitutes a valid and binding obligation of each of Parent, Merger Sub and Merger LLC, enforceable against each of Parent, Merger Sub and Merger LLC in accordance with its terms, subject to the Enforceability Exceptions.

Section 5.3 No Conflict; Government Authorization.

(a) The execution and delivery of this Agreement, the performance by each of Parent, Merger Sub and Merger LLC of its obligations hereunder and the Ancillary Documents to which each of Parent, Merger Sub and Merger LLC is or will be a party, and the consummation by each of Parent, Merger Sub and Merger LLC of the transactions contemplated by this Agreement and the Ancillary Documents to which each of Parent , Merger Sub and Merger LLC is or will be a party, does not and will not (i) conflict with, or result in any violation of the Organizational Documents of Parent, Merger Sub or Merger LLC; (ii) subject to the matters described in Section 5.3(b), conflict with or result in a violation of any material Permit or Law applicable to Parent, Merger Sub or Merger LLC, or any of their respective assets; or (iii) result in a material breach of, or constitute a material default (or event which with the giving of notice or lapse of time, or both, would become a material default) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a benefit under, or result in the creation of any Encumbrance (not including Permitted Encumbrances) upon any of the rights or assets of Parent, Merger Sub or Merger LLC pursuant to, any Contract to which Parent, Merger Sub or Merger LLC is a party or by which it is bound or affected.

(b) No consent of, or registration, declaration, notice or filing with, any Governmental Authority is required to be obtained or made by Parent, Merger Sub or Merger LLC in connection with the execution, delivery and performance of this Agreement and the Ancillary Documents to which each of Parent , Merger Sub and Merger LLC is or will be a party or the consummation of the transactions contemplated hereby or thereby, other than (i) any filings required under state securities Laws, and (ii) the filing of the First-Step Certificate of Merger, Second-Step Certificate of Merger or other documents with the Secretary of State of the State of Delaware.

Section 5.4 Legal Proceedings. There are no Actions pending by or against, or to the knowledge of Parent, threatened against, Parent, Merger Sub or Merger LLC, or any of the directors or officers of Parent, Merger Sub or Merger LLC in their capacity as directors or officers of Parent, Merger Sub or Merger LLC that would have a material adverse effect on the ability of Parent, Merger Sub or Merger LLC to perform its respective obligations under this Agreement or consummate the transactions contemplated by this Agreement. Parent, Merger Sub and Merger LLC are not subject to any Governmental Order that would prevent Parent, Merger Sub or Merger LLC from performing its respective obligations under this Agreement or

consummating the transactions contemplated by this Agreement. As of the date of this Agreement, there is no Action pending by Parent, Merger Sub or Merger LLC or which Parent, Merger Sub or Merger LLC intends to initiate against any other Person, in either case, that would have a material adverse effect on the ability of Parent, Merger Sub or Merger LLC to perform its respective obligations under this Agreement or consummate the transactions contemplated by this Agreement.

Section 5.5 Finder's Fee. Parent, Merger Sub and Merger LLC have not incurred any Liability to any party for any brokerage, investment bankers' or finders' fees or commissions in connection with the transactions contemplated by this Agreement.

Section 5.6 No Prior Activities. Neither Merger Sub nor Merger LLC has incurred any liabilities or obligations, except those incurred in connection with its organization or formation and with the negotiation of this Agreement and the performance of its obligations hereunder and the consummation of the transactions contemplated by this Agreement, including the Merger. Except as contemplated by this Agreement, neither Merger Sub nor Merger LLC had engaged in any business activities of any type or kind whatsoever, or entered into any agreements or arrangements with any Person, or become subject to or bound by any obligation or undertaking. From the date of the incorporation of Merger Sub through the Effective Time, Parent owns all of the issued and outstanding capital stock of Merger Sub and from the date of the formation of Merger LLC through the Second Effective Time, Parent owns all of the limited liability company interests of Merger LLC that are treated as equity for U.S. federal income Tax purposes. Neither Merger Sub nor Merger LLC is a successor to any other Person.

Section 5.7 Parent Capitalization.

(a) Schedule 5.7(a) sets out particulars of the authorized and issued shares and other Convertible Securities of Parent as of the date hereof, including the number of shares of the following: (i) issued and outstanding Parent Shares; (ii) granted stock options, including vesting schedule and exercise price; (iii) Parent Shares reserved for future award grants under any equity incentive plan; (iv) each series of preferred stock of Parent; and (v) warrants or stock purchase rights. Other than the shares and other Convertible Securities listed as issued and outstanding on Schedule 5.7(a), there are no other issued or outstanding shares and other Convertible Securities in the capital of Parent. All the shares and other Convertible Securities indicated on such Schedule as being issued and outstanding have been duly authorized and validly issued, all such outstanding shares are fully paid and non-assessable and all such outstanding shares were issued in compliance with all applicable foreign, state and federal laws concerning the issuance of securities. The rights, preferences, privileges and restrictions of the Merger Consideration consisting of Parent Shares are as stated in the Organizational Documents of Parent and as provided by the Delaware General Corporation Law. Each share of preferred stock of Parent is convertible into Parent Shares on a one-for-one basis as of the date hereof, and the consummation of the transactions contemplated hereunder will not result in any anti-dilution adjustment or other similar adjustment to the outstanding shares of any series of preferred stock of Parent. For purposes of hereof, "Convertible Securities" means any right, unit, option, warrant or any other security, including, without limitation, any loan, note or any other instrument or agreement evidencing indebtedness of Parent, which may be converted or exchanged into shares in the capital of Parent or which carries a right to acquire shares in the capital of the Parent.

(b) Upon issuance in accordance with this Agreement, the Merger Consideration consisting of Parent Shares will be duly authorized, validly issued, fully paid and non-assessable, free and clear of all Encumbrances imposed or created by or otherwise resulting from the acts or omissions of Parent (except for subject to the restrictions set forth in the Lock-Up Agreements, the Voting Agreement, the Right of First Refusal and Co-Sale Agreement and the Bylaws of Parent, as amended from time to time).

Section 5.8 Financial Statements; Cash on Balance Sheet; Title to Assets. As set forth on Section 5.8 of the Parent Disclosure Schedules, Parent has delivered to the Company true and correct copies of Parent's (i) unaudited consolidated balance sheet as of December 31, 2019 and December 31, 2018 and the related consolidated statements of operations, statements of cash flow, and statements of stockholders' equity and (ii) unaudited consolidated balance sheet as of September 30, 2020 and the related consolidated statement of operations, statement of cash flow, and statement of stockholders' equity (the financial statements referred to in clauses (i) and (ii) above and the accompanying notes thereto, collectively the "Parent Financial Statements"). The Parent Financial Statements have been prepared based on the books and records of the Parent in accordance with GAAP, throughout the periods involved and fairly present the financial condition of the Parent as of their respective dates and the results of operations and cash flows of the Parent for the periods indicated, except that the unaudited interim Parent Financial Statements do not reflect year-end adjustments, nor do they contain the materials and disclosures to be found in notes to financial statements prepared in accordance with GAAP.

Section 5.9 Indebtedness. Section 5.9 of the Parent Disclosure Schedules sets forth as of the date hereof all outstanding Debt of Parent or any of its Subsidiaries, or for which any of such Persons has commitments. Parent is not in material default with respect to any Debt.

Section 5.10 Cash Resources. Parent has sufficient cash resources to pay the cash portion of the consideration to be paid hereunder to Equityholders at the Closing.

Section 5.11 Compliance with Laws. Parent is, and since January 1, 2018, has been in material compliance with, conducts its business and research and development activities, including clinical studies, in material compliance with, all applicable Laws. Since January 1, 2018, Parent has not received any written notice from any Governmental Authority to the effect that Parent is not in material compliance with any applicable Law.

Section 5.12 Regulatory Matters. Parent is and, since January 1, 2018, has been in material compliance with all Health Care Laws applicable to Parent or any assets owned or used by Parent, and Parent has not, since January 1, 2018, engaged in activities which are, as applicable, cause for civil penalties, or mandatory or permissive exclusion from any government healthcare program. Parent has not received any notification, correspondence or any other written or oral communication, including notification of any pending or threatened Action from any court, arbitrator, third-party or Governmental Authority, including, without limitation, the FDA, the Centers for Medicare & Medicaid Services, the U.S. Department of Justice, or the U.S. Department of Health and Human Services Office of Inspector General, of potential or actual non-compliance by, or Liability of, Parent under any Health Care Laws.

Section 5.13 Exclusivity of Representations of Parent and Merger Sub. Except as expressly set forth in this Article V and the Parent Certificate, neither Parent, Merger Sub nor Merger LLC, nor any Person on behalf of Parent or Merger Sub has made, nor are any of them making, any representation or warranty, written or oral, express or implied, at law or in equity, including with respect to merchantability or fitness for any particular purpose, in respect of Parent's business, including any representations or warranties about the accuracy or completeness of any information or documents previously provided, and any other such representations and warranties are hereby expressly disclaimed.

Section 5.14 Reliance. Parent and Merger Sub expressly acknowledge and agree that, except as set forth in Article IV of this Agreement and the Company Certificate, none of Parent, Merger Sub or any of their respective representatives is relying on any other representation or warranty of the Company or any other Person, including regarding the accuracy or completeness of any such other representations or warranties or the omission of any material information, whether express or implied.

ARTICLE VI
ADDITIONAL AGREEMENTS

Section 6.1 Conduct of the Company Prior to the Effective Time.

(a) Unless Parent otherwise consents in writing (which consent shall not be unreasonably withheld, conditioned or delayed) and except as otherwise expressly required by this Agreement or set forth in Schedule 6.1 of the Company Disclosure Schedule, during the period commencing with the execution and delivery of this Agreement and terminating upon the earlier to occur of the Effective Time and the termination of this Agreement pursuant to and in accordance with Section 8.1 (the "Pre-Closing Period"), the Company shall conduct the Business in the ordinary course consistent with past practice and use commercially reasonable efforts to (i) preserve intact its present business organization and goodwill, (ii) maintain satisfactory relationships with its customers, vendors, suppliers and others having material business relationships with it, and (iii) protect the Company Intellectual Property, including all rights or other interests of the Company in the Company Products.

(b) Without limiting the generality of the foregoing, except as otherwise expressly required by this Agreement or set forth in Section 6.1 of the Company Disclosure Schedule, during the Pre-Closing Period, the Company shall not do or cause to be done any of the following without the prior written consent of Parent (which consent shall not be unreasonably withheld, conditioned or delayed):

(i) issue, deliver, sell or grant any (x) Company Capital Stock or other equity interests, except upon the exercise of Company Options or Company Convertible Notes or (y) options, convertible notes or other rights, agreements or commitments obligating the Company to issue any Company Capital Stock or other equity interests or equity-based awards;

(ii) except in the ordinary course of business, create any Encumbrance on any assets (whether tangible or intangible) of the Company, other than (x) Permitted Encumbrances; and (y) Encumbrances on assets having an aggregate value not in excess of Fifty Thousand Dollars ($50,000);

(iii) sell, assign, transfer, lease, license or otherwise dispose of, or agree to sell, assign, transfer, lease, license or otherwise dispose of, any of the fixed assets of the Company other than inventory in the ordinary course of business;

(iv) incur, or authorize the incurrence of, any capital expenditures or any obligations or liabilities in respect of capital expenditures by the Company, except for any capital expenditures which do not exceed Fifty Thousand Dollars ($50,000) in the aggregate;

(v) acquire (by merger, consolidation or combination, or acquisition of stock or assets) any corporation, partnership or other business organization or division thereof;

(vi) make any loans, advances or capital contributions to, or investments in, any other Person, except the advancement of travel and entertainment expenses to employees and consultants in the ordinary course of business consistent with past practice;

(vii) create, incur, assume or otherwise become liable with respect to any material Debt;

(viii) forgive or cancel any Debt owed to the Company or claims held by it, or waive or relinquish any material right;

(ix) enter into, amend, cancel, transfer, assign, breach, modify or terminate any Company Material Contract (or any Contract that would be a Company Material Contract if it existed as of the date of this Agreement) or otherwise waive, release or assign any material rights, claims or benefits of the Company;

(x) (i) adopt, terminate or materially amend any Company Benefit Plan or a plan that would be a Company Benefit Plan if it were in existence on the date of the Agreement except as required under applicable Law or the terms of any Company Benefit Plan in effect as of the date of this Agreement; (ii) increase the annual base salary, annual fee, annual bonus opportunity, benefits, or severance opportunity of any Service Provider; (iii) grant any equity-based awards; (iv) terminate the employment or engagement of any Service Provider, other than for cause or due to death or disability; (v) hire any Service Provider having total annual compensation in excess of Fifty Thousand Dollars ($50,000); or (vi) promote any officers or employees, except for a promotion of any employee that is in the ordinary course of business and consistent with past practice and prior notice of which is provided to Parent;

(xi) change any method of financial or Tax accounting or financial or Tax accounting practice used by the Company, other than such changes as are required by GAAP or applicable Law, as applicable;

(xii) make, revoke or change any material Tax election, amend any Tax Return, file any income or other material Tax Return inconsistent with past practice, enter into a Tax allocation, sharing or indemnity agreement (other than pursuant to customary commercial contracts entered into in the ordinary course of business and the primary purpose of which is not Tax), enter into any closing agreement or similar agreement relating to Taxes, request any ruling or similar guidance with respect to Taxes, surrender any right to claim a material Tax refund, or consent to an extension or waiver of the statutory limitation period applicable to a claim or assessment in respect of Taxes;

(xiii) commence, settle, compromise or offer or propose to settle or compromise, (i) any Action involving or against the Company, (ii) any stockholder litigation or dispute against the Company or any of their respective officers or directors, (iii) any Action that relates to the transactions contemplated hereby or (iv) any Tax Proceeding;

(xiv) correspond, communicate or consult with the FDA or similar Governmental Authority in any material respect regarding any Company Product without providing Parent with prior written notice and the opportunity to consult with the Company with respect to such material correspondence, communication or consultation;

(xv) amend the Organizational Documents of the Company;

(xvi) establish, adopt, enter into, amend a plan or agreement of complete or partial liquidation, dissolution, restructuring, merger, consolidation, recapitalization or other reorganization;

(xvii) amend the study protocol for any clinical trials already commenced with respect to any Company Product;

(xviii) abandon or waive any Company Intellectual Property or (A) except in the reasonable discretion and judgment of the Company exercised in connection with the diligent prosecution of the Company Intellectual Property, grant, extend, amend or modify any material rights in or to the Company Intellectual Property, (B) fail to diligently prosecute the Company's Valid Patent Rights, or (C) fail to exercise a right of renewal or extension under any material license agreement with respect to Company Intellectual Property;

(xix) enter into a collective bargaining, labor or similar agreement, except as required by applicable Law and after prior notice to Parent;

(xx) establish any subsidiary; or

(xxi) enter into any Contract to take, or cause to be taken, any of the actions set forth in this Section 6.1(b).

Section 6.2 Access to Information. Subject to the terms of the Confidentiality Agreement, during the Pre-Closing Period, upon reasonable notice and during normal business hours, the Company shall, and shall cause the officers and employees of the Company, to, (a) afford the officers, employees and authorized agents and representatives of Parent reasonable access to the employees, offices, properties, books and records of the Company and (b) furnish to the officers, employees and authorized agents and representatives of Parent such additional financial and operating data and other information regarding the assets, properties and Business of the Company as Parent may from time to time reasonably request in order to assist Parent in fulfilling its obligations under this Agreement and to facilitate the consummation of the transactions contemplated by this Agreement; *provided, however,* (i) any such access shall be conducted in such a manner as not to interfere unreasonably with the operations or business activities of the Company; and (ii) the Company shall not be required to so confer, afford such access or furnish such copies or other information to the extent that doing so would contravene any Law, result in the breach of any confidentiality or similar agreement to which the Company is a party, the loss of protectable interests in trade secrets, or the loss of attorney-client privilege (provided that the Company shall use its reasonable efforts to allow for such access or disclosure in a manner that does not result in a breach of such agreement or a loss of attorney-client privilege, including using commercially reasonable efforts to obtain the required consent of any applicable third party or through the use of a "clean team"), or involves any information relating to the sale process, bids received from other Persons in connection with the transactions contemplated by this Agreement and information, or analysis (including financial analysis) relating to such bids. The Equityholders Representative shall have the right to have one or more representatives present at all times during any such inspections and access.

Section 6.3 Confidentiality. Parent, Merger Sub and Merger LLC hereby agree to be bound by and comply with the terms of the Confidentiality Agreement, which are hereby incorporated into this Agreement by reference and shall continue in full force and effect until the earlier of the Effective Time or until such agreement terminates pursuant to its terms, such that the information obtained by Parent, Merger Sub and Merger LLC, or their respective officers, employees, agents or representatives, during any investigation conducted pursuant to Section 6.2, or in connection with the negotiation and execution of this Agreement or the consummation of the transactions contemplated by this Agreement, or otherwise, shall be governed by the terms of the Confidentiality Agreement.

Section 6.4 Efforts; Consents; Regulatory and Other Authorizations.

(a) Each party to this Agreement shall use its commercially reasonable efforts to (i) take, or cause to be taken, all appropriate action, and do, or cause to be done, all things necessary, proper or advisable under applicable Law or otherwise to promptly consummate and make effective the transactions contemplated by this Agreement; (ii) obtain all authorizations, consents, orders and approvals of, and give all notices to and make all filings with, all Governmental Authorities and other third parties that may be or become necessary for the performance of its obligations under this Agreement and the consummation of the transactions contemplated by this Agreement, including those authorizations, consents, orders, approvals, notices and filings set forth in the Company Disclosure Schedule; and (iii) fulfill all conditions to such party's obligations under this Agreement. Each party to this Agreement shall reasonably cooperate with the other Parties to this Agreement in promptly seeking to obtain all such authorizations, consents, orders and approvals, giving such notices, and making such filings. Notwithstanding the foregoing or anything to the contrary set forth in this Agreement, in connection with obtaining such authorizations, consents, orders and approvals from third parties, the Company shall not be required to make payments to any Person unless expressly required by the terms of any existing Contract between the Company and such Person, in which case any such payment shall be borne by the Company and deemed an Unpaid Company Transaction Expense.

(b) Promptly following the execution and delivery of this Agreement, the Company shall duly take all lawful action to obtain the Company Stockholder Approval pursuant to executed written consents (the "Written Consent").The Company Board of Directors shall make the Company Board Recommendation and shall not (i) withdraw, modify or qualify in any manner adverse to Parent such recommendation, or (ii) take any action or make any statement in connection with obtaining the Written Consent inconsistent with such recommendation. Promptly following receipt of the Written Consent, the Company shall cause its corporate Secretary to deliver a copy of such Written Consent to Parent, together with a certificate executed on behalf of the Company by its corporate Secretary certifying that such Written Consent reflects the Company Stockholder Approval.

Section 6.5 Further Action. Subject to the terms and conditions provided in this Agreement, each of the Parties to this Agreement shall use its commercially reasonable efforts to deliver, or cause to be delivered, such further certificates, instruments and other documents, and to take, or cause to be taken, such further actions, as may be necessary, proper or advisable under applicable Law to consummate and make effective the transactions contemplated by this Agreement.

Section 6.6 Indemnification; Directors' and Officers' Insurance.

(a) From and after the Effective Time, the Surviving Company shall (i) indemnify and hold harmless each present and former director and officer of the Company (collectively, the "Company Indemnified Parties"), against any and all Damages incurred or suffered by any of the Company Indemnified Parties in connection with any Liabilities or any Action, whether civil, criminal, administrative or investigative, arising out of or pertaining to matters existing or occurring at or prior to the Effective Time, whether asserted or claimed prior to, at or after the Effective Time, pursuant to any indemnification provisions under the Organizational Documents of the Company as in effect on the date of this Agreement or any indemnification agreement between the Company and such Company Indemnified Party (as set forth on Section 6.6(a) of the Company Disclosure Schedule and made available to Parent), and (ii) advance expenses as incurred by any Company Indemnified Party in connection with any matters for which such Company Indemnified Party is entitled to indemnification from Parent pursuant to this Section 6.6(a) pursuant to any indemnification provisions under the Organizational Documents of the Company and pursuant to any indemnification agreement between the Company and such Company Indemnified Party (as set forth on Section 6.6(a) of the Company Disclosure Schedule and made available to Parent); *provided*, *however,* that the Company Indemnified Party to whom expenses are advanced provides an undertaking to repay such advances if it is ultimately and finally determined by a court of competent jurisdiction and all rights of appeal have lapsed that such Company Indemnified Party is not entitled to indemnification under applicable Law, the Organizational Documents of the Company, any such indemnification agreement and pursuant to this Section 6.6(a).

(b) From and after the Effective Time, the Organizational Documents of the Surviving Company shall contain provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of the Company Indemnified Parties than are as set forth in the Organizational Documents of the Company as of the date of this Agreement. Any indemnification agreements with the Company Indemnified Parties in existence on the date of this Agreement, and set forth on Section 6.6 of the Company Disclosure Schedules, shall be assumed by the Surviving Company in the Merger, without any further action, and shall survive the Merger and continue in full force and effect in accordance with their terms.

(c) Prior to the Effective Time, the Company shall purchase a prepaid policy or policies (i.e., "tail coverage") providing the Company's current and former directors and officers with coverage for an aggregate period of not less than six (6) years from the Effective Time with respect to claims arising from facts or events that occurred on or before the Closing Date, including with respect to the transactions contemplated by this Agreement. The premiums for such prepaid policies shall be paid in full by the Company at or prior to the Effective Time and such prepaid policies shall be non-cancelable, and, for the avoidance of doubt, if not so paid prior to the Effective Time such premiums shall be treated as an Unpaid Company Transaction Expense. If such prepaid policies have been obtained prior to the Effective Time, Parent shall, and shall cause the Surviving Company to, maintain such policies in full force and effect, and continue to honor the obligations thereunder.

(d) Notwithstanding any other provisions of this Agreement, the obligations of Parent and the Surviving Company contained in this Section 6.6 shall be binding upon the successors and assigns of Parent and the Surviving Company. In the event Parent or the Surviving Company (or any of their respective successors or assigns) (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger or (ii) transfers or conveys all or substantially all of its properties and assets to any Person, then, and in each such case, proper provision shall be made so that such continuing or surviving corporation or entity or transferee of such assets, as the case may be, shall assume all of the obligations set forth in this Section 6.6.

(e) The terms and provisions of this Section 6.6 shall operate for the benefit of, and shall be enforceable by, the Company Indemnified Parties and their respective heirs and representatives, each of whom is an intended third party beneficiary of this Section 6.6. The provisions of this Section 6.6 may not be amended or waived without the written consent of any affected Indemnified Party.

Section 6.7 280G Matters.

(a) To the extent that any payments or benefits arising from or related to this Agreement could be "excess parachute payments" under 280G(b)(1) of the Code, then the Company shall use its best efforts to obtain and deliver to Parent, prior to the initiation of the requisite stockholder approval procedure under Section 6.7(b), a Parachute Payment Waiver from each Person who is, with respect to the Company and/or any ERISA Affiliate, a "disqualified individual" (within the meaning of Section 280G of the Code and the Department of Treasury regulations promulgated thereunder), as determined immediately prior to the initiation of the requisite stockholder approval procedure under Section 6.7(b), and who reasonably might otherwise have, receive or have the right to entitlement to receive a parachute payment under Section 280G of the Code in connection with the transactions contemplated by this Agreement.

(b) As soon as practicable following the delivery of the Parachute Payment Waivers by the Company to Parent, the Company shall submit to the shareholders of the Company for approval in accordance with Section 280G(b)(5)(B) of the Code and treasury regulations thereunder any payments and/or benefits that are subject to a Parachute Payment Waiver, such that such payments and benefits shall not be deemed to be "parachute

payments" under Section 280G of the Code, and prior to the Closing, the Company shall deliver to Parent evidence reasonably satisfactory to Parent (i) that a Company shareholder vote was solicited in conformance with Section 280G of the Code, and the requisite Company shareholder approval was obtained with respect to any payments and/or benefits that were subject to the Company shareholder vote (the "Section 280G Approval") or (ii) that the Section 280G Approval was not obtained and as a consequence, pursuant to the Parachute Payment Waiver, such "parachute payments" shall not be made or provided. The Company shall use commercially reasonable efforts to obtain the Section 280G Approval in a manner which satisfies all applicable requirements of Section 280G(b)(5)(B) of the Code and the Department of Treasury regulations promulgated thereunder.

(c) The form of the Parachute Payment Waiver and any materials to be submitted to the Company's shareholders in connection with the Section 280G Approval (the "Section 280G Soliciting Materials") shall be subject to review and approval by Parent, which approval shall not be unreasonably withheld. The Company will promptly advise Parent in writing if, at any time prior to the Closing, the Company obtains knowledge of any facts that might make it necessary or appropriate to amend or supplement the Section 280G Soliciting Materials in order to make statements contained or incorporated by reference therein not misleading or to comply with applicable Law.

Section 6.8 Tax Covenants.

(a) Tax Returns. The Company shall prepare and timely file (or cause to be prepared and timely filed) any Tax Return required to be filed by the Company after the date hereof and on or before the Closing Date (taking into account all applicable extensions), and timely pay any Tax reflected thereon; provided, however, the Company will submit any such Tax Returns for income or other material Taxes to Parent for review and comment at least twenty (20) days prior to the due date for filing such Tax Return (taking into account all applicable extensions), and will consider in good faith any reasonable comments received in writing within ten (10) days of the Company's delivery of such Tax Return to Parent. Parent shall prepare (or cause to be prepared) in a manner consistent with past practice, unless otherwise required by applicable Law, and timely file (or cause to be timely filed) all Tax Returns of the Company for all periods or portions thereof ending on or before the Closing Date that are required to be filed after the Closing Date ("Parent Prepared Returns"). Any Taxes shown as due on any such Parent Prepared Return which are Pre-Closing Taxes shall be remitted to Parent in accordance with Section 9.4 to the extent not included in Closing Debt, Unpaid Company Transaction Expenses or otherwise accounted for in the Initial Merger Consideration. In the event that any Parent Prepared Return shows any material Pre-Closing Taxes that form the basis for a claim of indemnification against the Equityholders pursuant to this Agreement, Parent shall submit a draft of each such Tax Return at least twenty (20) days prior to the date such Tax Return is to be filed to the Equityholders Representative for its review and comment. Parent shall consider in good faith all timely received reasonable comments of the Equityholders Representative requested in writing within ten (10) days of Parent's delivery of such Tax Return to the Equityholders Representative.

(b) Cooperation on Tax Matters. Parent, the Company and the Equityholders Representative shall cooperate fully, as and to the extent reasonably requested by each Party, in connection with the filing of Tax Returns pursuant to this Agreement and any Tax Proceeding with respect to Taxes attributable to any Pre-Closing Tax Period. Such cooperation shall include the retention and (upon the relevant Party's request) the provision of records and information which are reasonably relevant to any such Tax Proceeding and making employees available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder.

(c) Transfer Taxes. All Transfer Taxes arising out of or in connection with the transactions contemplated by this Agreement shall be borne one-half by the Equityholders and one-half by Parent, and the party required by applicable Law to do so will file all necessary Tax Returns and other documentation with respect to all such Transfer Taxes. The Parties shall cooperate in timely filing such Tax Returns. Upon request, the filing Party shall provide evidence satisfactory to the requesting Party that such Tax Returns have been duly and timely filed and the relevant Transfer Taxes duly and timely paid. The Parties will reasonably cooperate with each other to lawfully minimize any Transfer Taxes.

(d) Tax Proceedings. If, subsequent to the Closing, Parent, the Surviving Corporation or the Surviving Company receives notice of a Tax Proceeding with respect to any Tax Return or Taxes of the Company for a Pre-Closing Tax Period or that concerns the qualification of the Merger as a "reorganization" within the meaning of Section 368(a) of the Code, then within fifteen (15) days after receipt of such notice, Parent shall notify the Equityholders Representative of the same and provide the Equityholders Representative with a copy of such notice. Parent shall have the right to control the conduct and resolution of such Tax Proceeding, *provided, however,* that Parent shall keep the Equityholders Representative reasonably informed of the progress of such Tax Proceeding and the Equityholders Representative shall have the right to participate (at the Equityholders Representative's own expense) in such Tax Proceeding. Neither Parent, the Surviving Corporation, the Surviving Company nor any of their Affiliates shall settle, resolve, concede or otherwise compromise any issue, matter or item arising in such Tax Proceeding (i) related to a Pre-Closing Tax Period that would reasonably be expected to give rise to an indemnity claim pursuant to this Agreement, or (ii) that concerns the qualification of the Merger as a "reorganization" within the meaning of Section 368(a) of the Code, in each case, without obtaining the Equityholders Representative's prior written consent thereto, which shall not be unreasonably withheld, conditioned or delayed. In the event of any conflict or overlap between the provisions of this Section 6.8(d) and Article IX, the provisions of this Section 6.8(d) shall control.

(e) FIRPTA Certificate. The Company shall deliver to Parent at the Closing a certificate executed by a duly authorized representative of the Company, dated as of the Closing Date, in accordance with Treasury Regulations Section 1.897-2(h) for purposes of satisfying the requirements of Treasury Regulations Sections 1.1445-2(c)(3), to the effect that Company is not and has not been within the last five years a "United States real property holding corporation" within the meaning of Section 897 of the Code.

(f) Tax Treatment of Merger.

(i) The Parties hereto intend, by executing this Agreement, to adopt a "plan of reorganization" within the meaning of Section 1.368-2(g) of the Treasury Regulations and Section 354(a)(1) of the Code, and that, for U.S. federal income Tax purposes, the First-Step and Second-Step, taken together, shall constitute an integrated plan described in Rev. Rul. 2001-46, 2001-2 C.B. 321 and qualify as a "reorganization" within the meaning of Section 368(a) of the Code and the Treasury Regulations thereunder.

(ii) The Parties hereto agree to treat the Merger for all Tax purposes in a manner consistent with the treatment described in this Section 6.8(f), unless otherwise required pursuant to the resolution of an audit or other similar examination or by a change in Law. The Parties hereto shall prepare all Tax Returns, books, records, and filings in a manner consistent with this Section 6.8(f), including the filing of the statements required by Treasury Regulations Sections 1.368-3 (as required by applicable Law), unless otherwise required pursuant to the resolution of an audit or other similar examination or by a change in Law. Prior to or following the Effective Time, none of Parent, Merger Sub, Merger LLC, the Company or the Surviving Company shall, and they shall not permit any of their respective Affiliates to, take (or fail to take) any action which action (or failure to act) would reasonably be expected to cause the Merger to fail to qualify as a reorganization within the meaning of Section 368(a) of the Code.

(iii) The Equityholders will make valid and timely elections under Section 83(b) of the Code with respect to the Parent Shares issued into escrow pursuant to Section 2.6(b)(i)(A)(3).

(iv) Parent and the Company agree that the cash and Parent Shares (including the Parent Delayed Share Consideration and Contingent Merger Consideration) payable or issuable to the holders of Company Capital Stock pursuant to Section 2.6(b) is intended to be and, except as required by applicable Law, will be treated as received in exchange for the applicable holder's Company Common Stock, and agree to report such payments for income Tax purposes as consideration for such holder's Company Capital Stock and not as compensation for services, unless otherwise required pursuant to the resolution of an audit or other examination or by a change in Law.

Section 6.9 Notifications. From the date of this Agreement until the Effective Time, the Company shall promptly notify Parent of:

(a) any notice or other communication from any Person alleging that the consent of such Person is or may be required in connection with the transactions contemplated by this Agreement;

(b) any Action against or, to the Company's Knowledge, threatened against, the Company; and

(c) any other event, condition, fact or circumstance that would make the timely satisfaction of any of the conditions set forth in Article VII impossible or unlikely;

No such notice shall be deemed to supplement or amend the Company Disclosure Schedule for the purpose of (i) determining the accuracy of any of the representations and warranties made by the Company in this Agreement, or (ii) determining whether any of the conditions set forth in Article VII has been satisfied. In the event of a failure to perform any covenant set forth in this Section 6.9, the claim for the underlying matter as to which notice should have been delivered shall be made by reference to the applicable provision of this Agreement with respect to such matter and not as a breach of a covenant in this Section 6.9.

Section 6.10 Payoff Letters and Invoices. The Company shall obtain and deliver to Parent no later than three (3) Business Days prior to the Closing Date: (a) payoff letters with respect to all Closing Debt for borrowed money (together with any accrued and unpaid interest thereon), including the Convertible Notes, and the amounts payable to the lender thereof to fully satisfy and discharge such Closing Debt in accordance with its terms (each, a "Payoff Letter") together with a properly completed IRS Form W-9, or the appropriate version of IRS Form W-8, as applicable, from each lender, and (b) an invoice from each advisor or other service provider to the Company with respect to all Unpaid Company Transaction Expenses estimated to be due and payable to such advisor or other service provider, as the case may be, as of the Closing Date (each, an "Invoice"), together with a properly completed IRS Form W-9, or the appropriate version of IRS Form W-8, as applicable, from each advisor or other service provide. At the Closing, Parent shall pay on behalf of the Surviving Corporation (or shall cause the Surviving Corporation to pay) each of the (i) debtors pursuant to each such Payoff Letter the full amount set forth therein, and (ii) advisors or other service providers to the Company pursuant to each such Invoice the full amount set forth therein, in each case to the extent that such amounts were included in the calculation of the Estimated Initial Merger Consideration.

Section 6.11 Parent Board Member. Parent and each Equityholder shall enter into the Joinder to Parent Voting Agreement and Right of First Refusal and Co-Sale Agreement effective as of the Closing. Within 30 days after the Closing, Parent and each Equityholder shall execute, and Parent shall use its reasonable best efforts to cause the Preferred Stock Majority and Common Stock Majority (as defined in the Voting Agreement) to execute, the amendment to the Voting Agreement attached hereto as Exhibit N.

Section 6.12 Merger Consideration Spreadsheet. Promptly following the determination of Estimated Initial Merger Consideration pursuant to Section 2.7 and no later than three (3) Business Days prior to the Closing Date, the Company shall prepare and deliver to Parent a spreadsheet in the form of Exhibit I (the "Consideration Spreadsheet"), certified by the Chief Executive Officer or Chief Financial Officer of the Company, setting forth the information requested therein as of the Effective Time.

Section 6.13 Employee Matters.

(a) During the period beginning as of the Closing and ending on no earlier than the sixth month anniversary of the Closing (the "Benefit Continuation Period"), Parent shall provide, or cause to be provided, each employee of the Company and its Subsidiaries who continues in employment with the Parent or one of its Affiliates (each, a "Continuing Employee"): (i) with employee benefits that are no less favorable in the aggregate to the employee benefits that are provided to similarly-situated employees of the Parent and (ii) total cash compensation (annual base salary and annual cash bonus opportunity) that is no less favorable, in the aggregate (as determined on an individual basis), than the base salaries or wage rates provided to each such Continuing Employees by the Company prior to the Closing (excluding for purposes of this clause any transaction or retention bonuses and equity-based or equity-like compensation).

(b) Parent shall, and shall cause its Affiliates to, use commercially reasonable efforts to grant all Continuing Employees credit for any service to the Company and its Subsidiaries earned prior to the Closing for purposes of eligibility, vesting and determination of the level of benefits, vacation or paid time off accrual and severance policy or benefit determinations, under any benefit or compensation plan, program, agreement or arrangement in which a Continuing Employee participates that may be established or maintained by the Parent or its Affiliates on or after the Closing (the "New Plans"); provided, however, that such service credit shall not be recognized to the extent that it would result in a duplication of benefits for the same period of time. In addition, the Parent shall, and shall cause its Affiliates to, use commercially reasonable efforts to cause (i) to be waived all pre-existing condition exclusions and actively-at-work requirements and similar limitations, eligibility waiting periods and evidence of insurability requirements under any New Plans to the extent waived or satisfied by a Continuing Employee under any Company Benefit Plan as of the Closing and (ii) any deductible, co-insurance and covered out-of-pocket expenses paid on or before the Closing by any Continuing Employee (or covered dependent thereof) to be taken into account for purposes of satisfying the corresponding deductible, coinsurance and maximum out-of-pocket provisions after the Closing under any applicable New Plan in the same plan year in which the Closing occurs.

(c) Nothing contained herein, express or implied, (x) is intended to confer upon any Continuing Employee any right to continued employment for any period or continued receipt of any specific employee benefit, or shall constitute an amendment to or any other modification of any benefit plan, (y) shall alter or limit the Parent's, the Company's, the Surviving Corporation's, Surviving Company's or their Affiliates' ability to amend, modify or terminate any particular benefit plan, program, agreement or arrangement or (z) is intended to confer upon any Person (including employees, retirees or dependents or beneficiaries of employees or retirees) any right as a third party beneficiary of this Agreement.

Section 6.14 Termination of Employee Plans. Prior to the Closing, the Company shall terminate any Company Benefit Plan intended to be qualified under Section 401(a) of the Code, such termination to be contingent upon the Closing and effective as of no later than the day immediately preceding the Closing Date, unless Parent provides written notice to the Company that any such Company Benefit Plan shall not be terminated. The Company shall provide Parent with evidence that all such Company Benefit Plans will be terminated pursuant to resolutions of the board of directors (or similar body) of the Company or its ERISA Affiliates, as the case may be. The form and substance of such resolutions shall be subject to review and approval of Parent (acting reasonably). The Company also shall take such other actions in furtherance of terminating any such Company Benefit Plan as Parent may reasonably require.

ARTICLE VII
CONDITIONS TO CLOSING

Section 7.1 Conditions to Obligations of the Company. The obligations of the Company to consummate the Merger and the other transactions contemplated by this Agreement shall be subject to the satisfaction, fulfillment or written waiver by the Company, at or prior to the Closing, of each of the following conditions:

(a) Representations and Warranties; Covenants. (i) The representations and warranties of Parent, Merger Sub and Merger LLC set forth in Article V of this Agreement and the Parent Certificate (other than the Parent Fundamental Representations) shall be true and correct in all respects (other than those representations and warranties that are made as of a specific date, which need only true and correct as of such date), except where failure to be true and correct in all respects as of the applicable date would not reasonably be expected to have a material adverse effect on the ability of Parent, Merger Sub or Merger LLC to consummate the transactions contemplated hereby, (ii) the Parent Fundamental Representations shall be true and correct in all material respects (when read without any exception or qualification as to materiality) at and as of the date of this Agreement and as of the Closing Date as though then made (except that those representations and warranties that are made as of a specific date need only be true and correct in all material respects as of such date and except in the case of the representations and warranties set forth in Section 5.7 of this Agreement for failures to be true and correct that are *de minimis*), (iii) the covenants and agreements set forth in this Agreement to be performed or complied with by Parent, Merger Sub and Merger LLC at or prior to the Effective Time shall have been performed or complied with in all material respects, and (iv) the Company shall have received an officer's certificate of each of Parent, Merger Sub and Merger LLC, dated as of the Closing Date, certifying as to the matters set forth in clauses (i), (ii) and (iii) of this Section 7.1(a) (the "Parent Certificate").

(b) No Law or Governmental Order. No Governmental Authority shall have enacted, issued, promulgated, enforced or entered any Law or Governmental Order which is in effect and has the effect of making the Merger or any other transactions contemplated by this Agreement illegal or otherwise restraining or prohibiting the consummation of the Merger.

(c) Stockholder Approval. This Agreement shall have been adopted by the Company Stockholder Approval in accordance with the DGCL and the CGCL.

Section 7.2 Conditions to Obligations of Parent, Merger Sub and Merger LLC. The obligations of Parent, Merger Sub and Merger LLC to consummate the Merger and the other transactions contemplated by this Agreement shall be subject to the satisfaction, fulfillment or written waiver by Parent, at or prior to the Closing, of each of the following conditions:

(a) Representations and Warranties; Covenants. (i) The representations and warranties of the Company set forth in Article IV of this Agreement and in the Company Certificate (other than the Company Fundamental Representations) shall be true and correct (when read without any exception or qualification as to materiality or Material Adverse Effect) at and as of the date of this Agreement and as of the Closing Date, except (A) that

those representations and warranties that are made as of a specific date need only be true and correct as of such date and (B) where the failure of such representations and warranties to be true and correct, individually or in the aggregate, has not had and would not reasonably be expected to result in a Company Material Adverse Effect, (ii) the Company Fundamental Representations shall be true and correct in all respects at and as of the date of this Agreement and as of the Closing Date as though then made (except that those representations and warranties that are made as of a specific date need only be true and correct as of such date), (iii) the covenants and agreements set forth in this Agreement to be performed or complied with by the Company at or prior to the Closing shall have been performed or complied with in all material respects, and (iv) Parent shall have received an officer's certificate of the Company, dated as of the Closing Date, certifying as to the matters set forth in clauses (i), (ii) and (iii) of this Section 7.2(a) (the "Company Certificate").

(b) No Litigation. No Action shall have been instituted, commenced or remain pending that seeks to or would reasonably be expected to (i) restrain, prevent, enjoin, prohibit or make illegal the First-Step, (ii) cause the First-Step to be rescinded following the Closing Date, (iii) impose limitations on the ability of the Surviving Corporation to conduct the Business following the First-Step or (iv) compel Parent or the Company to dispose of any portion of the Business.

(c) No Law or Governmental Action. No Governmental Authority shall have enacted, issued, promulgated, enforced or entered any Law or Governmental Order which is in effect and has the effect of making the Merger or any of the other material transactions contemplated by this Agreement illegal or otherwise restraining or prohibiting the consummation of the Merger or any of the other transactions contemplated by this Agreement.

(d) Third Party Consents. The Company shall have received all consents listed on Schedule 7.02(c), provided in a manner reasonably satisfactory to Parent.

(e) Material Adverse Effect. Since the date of this Agreement, there shall not have occurred any Material Adverse Effect.

(f) No Dissenting Shares. No holders of Company Capital Stock shall have exercised (and not subsequently withdrawn or waived) statutory appraisal rights in connection with the Merger.

(g) Stockholder Approval. This Agreement shall have been adopted by the Company Stockholder Approval in accordance with the DGCL and the CGCL.

(h) Effective Agreements. Parent shall have received the following agreements and documents, each of which shall be in full force and effect:

(i) the Option Cancellation Agreements, executed by Optionholders holding at least fifty percent (50%) of the outstanding Company Options;

(ii) the Non-Competition and Non-Solicitation Agreement, executed by the Sole Stockholder;

(iii) Joinder and Release Agreement, executed by the Sole Stockholder;

(iv) a Director and Officer Release in the form of Exhibit J, executed by the persons listed on Schedule 7.2(h);

(v) a Payoff Letter and a cancellation of each Convertible Note in the form of Exhibit K, executed by each Convertible Noteholder;

(vi) a certificate executed on behalf of the Company by its Secretary certifying that the Company Board Recommendation and Company Stockholder Approval have been obtained and have not been revoked, rescinded or amended and are in full force and effect as of the date thereof (and attaching thereto true, correct and complete copies of the resolutions containing the Company Board Recommendation and Company Stockholder Approval);

(vii) a Payoff Letter from the lender under the PPP Loan; and

(viii) written resignations, in a form reasonably satisfactory to Parent, of all directors and officers of the Company, to be effective as of the Effective Time.

(i) 280G. With respect to any payments and/or benefits that may constitute "parachute payments" under Section 280G of the Code with respect to any Person in connection with the transactions contemplated by this Agreement, (i) the Company shall have received and delivered to Parent a Parachute Payment Waiver from each Person receiving, or that is eligible to receive, a payment that may constitute a "parachute payment" under Section 280G of the Code prior to soliciting the Section 280G Approval and (ii) the Company's stockholders shall have (A) approved, pursuant to the method provided for in the regulations promulgated under Section 280G, any such "parachute payments" or (B) shall have voted upon and disapproved such "parachute payments," and, as a consequence, such "parachute payments" shall not be paid or provided for in any manner and Parent and its Subsidiaries shall not have any Liabilities with respect to such "parachute payments." Each Parachute Payment Waiver shall be effective no later than immediately prior to the Closing.

(j) Key Employee. As of immediately prior to the Closing, the Key Employee shall remain actively employed by the Company, shall have accepted his Offer Letter with Parent, and shall not have revoked his acceptance or evidenced any intention to terminate employment with Parent or the Surviving Company following the Closing.

ARTICLE VIII
TERMINATION, AMENDMENT AND WAIVER

Section 8.1 Termination. This Agreement may be terminated at any time prior to the Closing only as follows:

(a) by the mutual written consent of Parent, Merger Sub, Merger LLC and the Company;

(b) by Parent, if the Company Stockholder Approval shall not have been obtained, by delivery of the Written Consent, in each case at or prior to 7:00 AM, New York City time on the first Business Day after the date of this Agreement;

(c) by either the Company, on the one hand, or Parent, Merger Sub and Merger LLC, on the other hand, by written notice to the other party if any Governmental Authority with jurisdiction over such matters shall have issued a Governmental Order permanently restraining, enjoining or otherwise prohibiting the Merger or any of the other transactions contemplated by this Agreement, and such Governmental Order shall have become final and unappealable;

(d) by either the Company, on the one hand, or Parent, Merger Sub and Merger LLC, on the other hand, by written notice to the other party if the Merger shall not have been consummated on or before December 31, 2020 (the "Outside Date"), unless the failure to consummate the Merger on or prior to such date is the result of any action or inaction under this Agreement by the party seeking to terminate the Agreement pursuant to the terms of this Section 8.1(d);

(e) by Parent, Merger Sub and Merger LLC, if the Company has breached or failed to perform in any respect any of its representations, warranties, covenants or agreements contained in this Agreement, such that any of the conditions set forth in Section 7.2 are incapable of being satisfied by the Outside Date; and

(f) by the Company, if Parent, Merger Sub or Merger LLC has breached or failed to perform in any respect any of their representations, warranties, covenants or agreements contained in this Agreement, such that any of the conditions set forth in Section 7.1 are incapable of being satisfied by the Outside Date.

Section 8.2 Effect of Termination. In the event of termination of this Agreement and abandonment of the Merger and the other transactions contemplated by this Agreement pursuant to and in accordance with Section 8.1, this Agreement shall forthwith become void and of no further force or effect whatsoever and there shall be no Liability on the part of any party to this Agreement; *provided, however,* that notwithstanding the foregoing, nothing contained in this Agreement shall relieve any party to this Agreement from any Liability resulting from or arising out of Fraud or any willful and material breach of any agreement or covenant in this Agreement; and *provided, further,* that notwithstanding the foregoing, the terms of Section 6.3, this Section 8.2 and Article X, and all related defined terms set forth in Article I, shall remain in full force and effect and shall survive any termination of this Agreement and *provided further*, in consideration for the right to retain the Good Faith Advance, within one business day of such termination, the Company shall duly issue, execute and deliver to Parent a convertible promissory note in the principal amount of Five Hundred Thousand Dollars ($500,000) in the form attached hereto as Exhibit L (the "Termination Note").

ARTICLE IX
INDEMNIFICATION

Section 9.1 Survival of Representations. The representations and warranties made by the Company in Article IV of this Agreement or the Company Certificate, on the one hand, and made by Parent, Merger Sub and Merger LLC in Article V of this Agreement or the Parent Certificate, on the other hand, shall survive the Closing and shall expire on, and no claim for indemnification pursuant to Section 9.2(a)(i) or 9.2(b)(i) may be asserted after the Holdback Release Date; *provided, however,* that (x) the Company Key Representations shall expire on the date that is two (2) years after the Effective Time, (y) the Company Fundamental Representations and Parent Fundamental Representations shall expire on the date that is sixty days after the expiration of the applicable statute of limitations, and (z) the covenants contained herein to be performed by the Company at or prior to the Closing shall survive the Closing and shall expire on the date of the applicable statute of limitation, (the date of expiration under the preceding clauses (x), (y) and (z), the "Expiration Date"); *provided, further, however,* that if, at any time prior to the Holdback Release Date or the applicable Expiration Date, as applicable, (i) Parent (acting in good faith) delivers to the Equityholders Representative a written notice alleging the existence of an inaccuracy in or a breach of any of the representations and warranties or covenants made by the Company in Article IV of this Agreement or the Company Certificate (and setting forth in reasonable detail the basis for Parent's belief that such an inaccuracy or breach may exist) and asserting a claim for recovery under Section 9.2(a) based on such alleged inaccuracy or breach, or (ii) the Equityholders Representative (acting in good faith, on behalf of the Equityholders) delivers to the Parent a written notice alleging the existence of an inaccuracy in or a breach of any of the representations and warranties made by Parent,

Merger Sub and Merger LLC in this Agreement or in the Parent Certificate (and setting forth in reasonable detail the basis for the Equityholders Representative's belief that such an inaccuracy or breach may exist) and asserting a claim for recovery under Section 9.2(b) based on such alleged inaccuracy or breach then, in the case of clause (i) or clause (ii), the claim asserted in such notice shall survive the Holdback Release Date or the applicable Expiration Date, as applicable, until such time as such claim is fully and finally resolved.

Section 9.2 Right to Indemnification.

(a) Subject to the limitations and procedural requirements set forth in this Article IX, from and after the Effective Time, the Equityholders, severally and not jointly and in proportion to (and not in excess of) each Equityholder's pro rata share of the Aggregate Merger Consideration payable pursuant to this Agreement, shall hold harmless and indemnify each of the Parent Indemnitees from and against, and shall compensate and reimburse each of the Parent Indemnitees for, any Damages which are suffered or incurred by any of the Parent Indemnitees or to which any of the Parent Indemnitees may otherwise become subject and which arise from or as a result of: (i) any breach of any representation or warranty of the Company set forth in Article IV of this Agreement or the Company Certificate; (ii) any breach of any covenant or agreement of the Company set forth in this Agreement, (iii) any inaccuracy to the Consideration Spreadsheet and any challenge, dispute or objection to the allocation of the Total Consideration (including any claim or allegation made by or on behalf of any current or former holder or purported or alleged holder of any Company Capital Stock, the Company Convertible Notes or Company Options challenging, disputing or objecting to the form or amount of the Total Consideration received or to be received by such current or former holder or purported or alleged holder of any Company Capital Stock, the Company Convertible Notes or Company Options); (iv) any Closing Debt or Unpaid Company Transaction Expenses, to the extent not accounted for in the determination of the Initial Merger Consideration; (v) any claim by any Person seeking to assert or based upon: (A) ownership or rights to ownership of any shares of Company Capital Stock, the Company Convertible Notes or Company Options; (B) any claim, whether derivative or otherwise, against any director or officer of the Company relating to the sale of the Company or any right relating to corporate governance or under the Company's Organizational Documents, or under any indemnification agreement between any Equityholder, on the one hand, and the Company, on the other; (C) any claim by any Person that his, her or its securities were wrongfully cancelled or repurchased by the Company; and (D) any claim against the Surviving Corporation, Surviving Company, Parent, Merger Sub, Merger LLC or any of their Affiliates by an Equityholder based on any act or failure to act, or any alleged act or failure to act, of the Equityholders Representative (including Fraud, willful misconduct or bad faith) in breach of its obligations hereunder, including any failure or alleged failure to distribute properly all or any portion of the consideration payable hereunder, (vi) any Pre-Closing Taxes, to the extent not included in Closing Debt or Unpaid Company Transaction Expenses, (vii) the failure of any holder of Company Common Stock to be an "accredited investor," as such term is defined in Rule 501(a) of the Securities Act; or (viii) the matters set forth on Exhibit M.

(b) Subject to the applicable limitations and procedural requirements set forth in this Article IX, from and after the Effective Time, Parent shall hold harmless and indemnify each of the Equityholder Indemnitees from and against, and shall compensate and reimburse each of the Equityholder Indemnitees for, any Damages which are suffered or incurred by any of the Equityholder Indemnitees or to which any of the Equityholder Indemnitees may otherwise become subject and which arise from or as a result of: (i) any breach of any representation or warranty of Parent, Merger Sub and Merger LLC set forth in this Agreement or the Parent Certificate (when read without any exception or qualification as to materiality); or (ii) any breach of any covenant or agreement of Parent, Merger Sub or Merger LLC set forth in this Agreement.

Section 9.3 Limitations on Liability.

(a) Other than with respect to breaches of (i) the Company Key Representations, (ii) the Company Fundamental Representations and (iii) Fraud, recovery from and offset or reduction of the Delayed Cash Consideration and up to an aggregate of 579,806 of the Parent Shares constituting the Parent Delayed Share Consideration (the "Holdback Shares") shall be the sole and exclusive source of recovery (and, for the avoidance of doubt, the Equityholders' maximum aggregate liability) under Section 9.2(a)(i). With respect to breaches of the Company Key Representations, the Equityholders' maximum liability under Section 9.2(a)(i) shall not when aggregated with all other Damages against which the Parent Indemnities would otherwise be entitled to be indemnified pursuant to Section 9.2(a)(i) exceed the lesser of (i) the Total Consideration actually paid or due and payable pursuant to this Agreement and (ii) Fifteen Million Dollars ($15,000,000). With respect to breaches of the Company Fundamental Representations, the Equityholders' maximum liability under Section 9.2(a)(i) shall not exceed the lesser of (i) the Total Consideration actually paid or due and payable pursuant to this Agreement and (ii) Thirty Million Dollars ($30,000,000). With the exception of a claim for Fraud, no Equityholder shall have any Liability under this Article IX in excess of the actual Merger Consideration payable to such Equityholder under this Agreement. Other than with respect to breaches of (i) the Parent Fundamental Representations and (ii) Fraud, the maximum aggregate Liability of the Parent, Merger Sub and Merger LLC under Section 9.2(b)(i) shall not exceed Three Million Dollars ($3,000,000). With respect to breaches of the Parent Fundamental Representations, the maximum aggregate Liability of the Parent, Merger Sub and Merger LLC under Section 9.2(b)(i) shall not exceed the lesser of (i) the Total Consideration actually paid or due and payable pursuant to this Agreement and (ii) Thirty Million Dollars ($30,000,000). Except in the case of Fraud and with respect to any claim covered by the immediately preceding sentence, the maximum aggregate Liability of the Parent, Merger Sub and Merger LLC under Section 9.2(b) shall be Thirty Million Dollars ($30,000,000). Notwithstanding anything to the contrary contained herein, for purposes of calculating the Total Consideration and Merger Consideration for purposes of this Section 9.3(a), the value of the Parent Shares shall be deemed to be the Market Value as of the time of the applicable calculation; provided, however, in the event that an Equityholder sells any Parent Shares prior to the time of the applicable calculation in a bona fide transaction to an unrelated third party, the value of such Parent Shares that were sold shall be deemed to be the price per share at which they were sold in such transaction. In the event that any Damages against which the Parent Indemnitees are entitled to be indemnified pursuant to this Article IX is satisfied by a reduction to or offset from the Aggregate Option Delayed Payment Amount, the former holders of the Company Common Stock shall in the aggregate pay to Parent an amount equal to such offset or reduction within two business days of any notice of such offset and reduction, and any amount so paid to Parent shall be deemed to be Delayed Cash Consideration.

(b) Without limiting the effect of any other limitation contained in this Article IX, other than in the case of the Company Fundamental Representations, the indemnification provided for in Section 9.2(a)(i) shall not apply except to the extent that the aggregate Damages against which the Parent Indemnitees would otherwise be entitled to be indemnified pursuant to Section 9.2(a)(i) exceeds One Hundred Fifty Thousand ($150,000) (the "Threshold"), in which event the Parent Indemnitees shall, subject to the other limitations contained herein, be entitled to be indemnified only for the portion of such Damages in excess of the Threshold. In addition, the Parent Indemnitees will not be entitled to recover for Damages against which the Parent Indemnitees would otherwise be entitled to be indemnified pursuant to Section 9.2(a)(i), for any individual indemnified matter unless the amount of Damages with respect to such matter (together with Damages from any substantially similar event, occurrence, condition or set of facts or circumstances) is greater than $5,000 (the "Per Claim Threshold"). Notwithstanding the foregoing, the Threshold and the Per Claim Threshold shall apply to any Damages arising out of or resulting from (i) Fraud or (ii) a breach of the Company Fundamental Representations. Without limiting the effect of any other limitation contained in this Article IX, other than in the case of the Parent Fundamental Representations, the indemnification provided

for in Section 9.2(b)(i) shall not apply except to the extent that the aggregate Damages against which the Equityholder Indemnitees would otherwise be entitled to be indemnified pursuant to Section 9.2(b)(i) exceeds the Threshold, in which event the Equityholder Indemnitees shall, subject to the other limitations contained herein, be entitled to be indemnified only for the portion of such Damages in excess of the Threshold. In addition, the Equityholder Indemnitees will not be entitled to recover for Damages against which the Equityholder Indemnitees would otherwise be entitled to be indemnified pursuant to Section 9.2(b)(i), for any individual indemnified matter unless the amount of Damages with respect to such matter (together with Damages from any substantially similar event, occurrence, condition or set of facts or circumstances) is greater than the Per Claim Threshold. Notwithstanding the foregoing, the Threshold and the Per Claim Threshold shall apply to any Damages arising out of or resulting from (i) Fraud or (ii) a breach of the Parent Fundamental Representations.

(c) Without limiting the effect of any other limitation contained in this Article IX, Parent shall not be entitled to indemnification under this Article IX for any Damages to the extent that the amount otherwise indemnifiable hereunder has been included in the calculation of the Initial Merger Consideration.

(d) For purposes of calculating the amount of Damages arising from any such breach or inaccuracy and for determining whether a breach or inaccuracy in any representation or warranty of the Company or Parent has occurred, the Company or Parent, as applicable, shall be deemed to have been made such representations and warranties without any qualifications as to materiality and, accordingly, all references herein and therein to "material," "in all material respects," "material adverse effect," and similar qualifications as to materiality shall be deemed to be deleted therefrom.

(e) Without limiting the effect of any other limitation contained in this Article IX, Damages against which the Parent Indemnitees are entitled to be indemnified pursuant to this Article IX, shall be satisfied in the following order of priority (i) first, be satisfied by a reduction to or offset from the Delayed Cash Consideration and Aggregate Option Delayed Payment Amount; (ii) second, after the Parent Indemnitees have exhausted or made claims upon the Delayed Cash Consideration and Aggregate Option Delayed Payment Amount (after taking into account all other claims for indemnifiable Damages made by the Parent Indemnitees), or following the Holdback Release Date, by a reduction to or offset from the Holdback Shares and cash paid to Optionholders in lieu of Holdback Shares; (iii) third, solely in the case of the Damages arising out of or resulting from the breach of the Company Key Representations or the Company Fundamental Representations, Fraud or the matters listed in clauses (ii) through (viii) of Section 9.2(a) (collectively, "Special Claims"), after the Parent Indemnitees have exhausted or made claims upon the Delayed Cash Consideration, Aggregate Option Delayed Payment Amount, and the Holdback Shares (or cash paid in lieu thereof) (after taking into account all other claims for indemnifiable Damages made by the Parent Indemnitees) or following the Holdback Release Date, by a reduction to or offset from the then unreleased Parent Delayed Share Consideration and cash paid to Optionholders in lieu of such Parent Delayed Share Consideration; (iv) fourth, solely in the case of the Damages arising out of a Special Claim, after the Parent Indemnitees have exhausted or made claims upon the Delayed Cash Consideration, Aggregate Option Delayed Payment Amount, the Holdback Shares(or cash paid in lieu thereof) and the unreleased Parent Delayed Share Consideration (or cash paid in lieu thereof) (after taking into account all other claims for indemnifiable Damages made by the Parent Indemnitees), by a reduction to or offset from the Contingent Merger Consideration; and (v) finally, after all of the foregoing methods of recovery are exhausted, directly against the Equityholders and each Equityholder shall be entitled to satisfy claims for indemnification in cash or by tendering Parent Shares, provided that the Merger would not reasonably be expected to fail to qualify as a "reorganization" within the meaning of Section 368(a) of the Code as a result of such election as a result of such payment. Notwithstanding anything to the contrary contained herein, for purposes of calculating the number of Parent shares to be reduced, setoff or

tendered, the value of the Parent Shares shall be deemed to be the Market Value as of the time of the applicable calculation. For the avoidance of doubt, the Parties hereby acknowledge and agree that, in addition to any other right or remedy hereunder, the obligation of Parent to pay any Delayed Cash Consideration, the Holdback Shares (or cash paid to Optionholders in lieu thereof), the unreleased Parent Delayed Share Consideration Shares (or cash paid to Optionholders in lieu thereof) and the Contingent Merger Consideration Shares (or cash paid to Optionholders in lieu thereof) hereunder shall be qualified in its entirety by the right of Parent to reduce, subject to the express limitations set forth in this Article IX and the order of priority in this Section 9.3(e), the amount of any such Delayed Cash Consideration, the Holdback Shares (or cash paid to Optionholders in lieu thereof), the unreleased Parent Delayed Share Consideration (or cash paid to Optionholders in lieu thereof) and Contingent Merger Consideration (or cash paid to Optionholders in lieu thereof) by the amount of any Damages incurred or suffered or (until the amount is finally determined in accordance with this Article IX) that Parent determines is reasonably likely to be incurred or suffered by any Parent Indemnitee (to the extent any Parent Indemnitee has an indemnification claim under this Article IX and subject to the express limitations set forth in this Article IX and the order of priority in this Section 9.3(e)). If the final amount of Damages determined to be payable in respect of such indemnification claim in accordance with this Article IX is less than the amount withheld by Parent from Delayed Cash Consideration, the Holdback Shares (or cash paid to Optionholders in lieu thereof), the unreleased Parent Delayed Share Consideration (or cash paid to Optionholders in lieu thereof) or Contingent Merger Consideration (or cash paid to Optionholders in lieu thereof) on, as applicable, then Parent shall promptly pay or deliver to the Paying Agent the difference for distribution to the Equityholders.

(f) All indemnifiable Damages shall be calculated net of the amount of any actual recoveries actually received by an indemnified Person from an unrelated third-party insurer under any existing insurance policies and contractual indemnification or contribution provisions (in each case, calculated net of any actual collection costs and reserves, expenses, deductibles or premium adjustments or retrospectively rated premiums (as reasonably determined by an indemnified Person) incurred or paid to procure such recoveries) in respect of any indemnifiable Damages suffered, paid, sustained or incurred by any indemnified Person. The indemnified Person shall use commercially reasonable efforts to seek recovery under all insurance policies covering any indemnifiable Damages against insurers to the same extent as they would if such indemnifiable Damages were not subject to indemnification hereunder unless such claim would reasonably be expected to result in a materially increased insurance premium. Anything herein to the contrary notwithstanding, no breach of any representation, warranty, covenant or agreement contained herein shall give rise to any right on the part of a party hereto or an indemnified Person after the consummation of the Merger to rescind this Agreement or any of the transactions contemplated by this Agreement.

(g) Notwithstanding any other provision of this Agreement, the Equityholders shall not have any liability or indemnification obligation for (i) Taxes resulting from any election made under Section 338 of the Code with respect to the Merger, or (ii) any Damages related to or arising from the amount, value or condition of any Tax asset or attribute (e.g., net operating loss carryforward or Tax credit carryforward) or the ability of Parent, the Surviving Corporation, the Surviving Company or any of their Affiliates to utilize any Tax asset or attribute (e.g., net operating loss carryforward or Tax credit carryforward) in any Tax period or portion thereof beginning after the Closing Date.

(h) Nothing in this Agreement shall limit any remedy Parent may have against any Person for claims based on Fraud.

Section 9.4 Claims and Procedures.

(a) If an Indemnitee (as defined below) determines in good faith that it has a bona fide claim for indemnification pursuant to this Article IX and the Indemnitee intends to make such indemnification claim, then Parent (in the case of any indemnification claim pursuant to Section 9.2(a)) or the Equityholders Representative (on behalf of the Equityholders) (in the case of any indemnification claim pursuant to Section 9.2(b)), as the case may be, shall promptly thereafter deliver to the Equityholders Representative or Parent, as the case may be, a certificate (any certificate delivered in accordance with the provisions of this Section 9.4(a), a "Claim Certificate"): (i) stating that the Indemnitee has a claim for indemnification pursuant to this Article IX; (ii) to the extent possible, contain a good faith non-binding, preliminary estimate of the amount to which such Indemnitee claims to be entitled to receive, which shall be the amount of Damages such Indemnitee claims to have so incurred or suffered or could reasonably be expected to incur or suffer; and (iii) specifying in reasonable detail the material facts known to the Indemnitee giving rise to such claim and the legal bases therefor (including a reasonably detailed summary of the relevant representations, warranties, covenants and/or other item of indemnification under this Agreement). No delay in providing such Claim Certificate shall affect an Indemnitee's rights hereunder, unless (and then only to the extent that) the Indemnitor (as defined below) is materially prejudiced thereby.

(b) If the Equityholders Representative or Parent, as the case may be, objects to any claim made in any Claim Certificate, then the Equityholders Representative or Parent, as the case may be, shall deliver a written notice (a "Claim Dispute Notice") to Parent or the Equityholders Representative, as the case may be, during the 30-day period commencing upon receipt by the Equityholders Representative or Parent, as the case may be, of the Claim Certificate. The Claim Dispute Notice shall set forth in reasonable detail the principal basis for the dispute of any claim made in the applicable Claim Certificate. If the Equityholders Representative or Parent, as the case may be, does not deliver a Claim Dispute Notice hereunder prior to the expiration of such 30-day period, then each claim for indemnification set forth in such Claim Certificate shall be deemed to have been conclusively determined in favor of the applicable Indemnitee for purposes of this Article IX on the terms set forth in the Claim Certificate.

(c) If a Claim Dispute Notice is properly delivered hereunder, then Parent and the Equityholders Representative shall attempt in good faith to resolve any such objections raised in such Claim Dispute Notice. If Parent and the Equityholders Representative agree to a resolution of such objection, then a memorandum setting forth the matters conclusively determined by Parent and the Equityholders Representative shall be prepared and signed by both parties.

(d) If no such resolution can be reached during the 45-day period following receipt of a given Claim Dispute Notice hereunder, then upon the expiration of such 45-day period, either Parent or the Equityholders Representative may bring suit to resolve the objection in accordance with Section 10.11 and Section 10.12.

Section 9.5 Defense of Third-Party Claims.

Upon receipt by any Person seeking to be indemnified pursuant to Section 9.2 (the "Indemnitee") of notice of any actual or possible Action that has been or may be brought or asserted by any Person who is not a Party (or an Affiliate or representative of a Party) against such Indemnitee and that may be subject to indemnification hereunder (a "Third-Party Claim"), the Indemnitee shall promptly deliver a Claim Certificate with respect to such Third-Party Claim to the Person from whom indemnification is sought under Section 9.2 (the "Indemnitor"). The Indemnitee shall have the right, at its election, to proceed with the defense of such Third-Party Claim on its own. If Indemnitee so proceeds with the defense of any such Third-Party Claim:

(a) Indemnitor shall, and shall use commercially reasonable efforts to cause each other Indemnitor to, make available to Indemnitee any documents and materials in its possession or control that may be necessary to the defense of such Third-Party Claim; and

(b) Indemnitee shall have the right to control, settle, adjust or compromise such Third Party Claim without the consent of the Indemnitor; *provided, however,* that except with the consent of the Indemnitor (which consent shall not be unreasonably withheld, conditioned or delayed), no settlement of any such Third Party Claim shall be determinative of either the fact that Damages may be recovered by the applicable Indemnitee in respect of such Third Party Claim pursuant to the indemnification provisions of this Article IX or the amount of such Damages that may be recovered by the applicable Indemnitee in respect of such Third-Party Claim pursuant to the indemnification provisions of this Article IX. If the Indemnitor consents to such settlement, the Indemnitor will not have any power or authority to object to the amount or validity of any claim by or on behalf of an Indemnitee for indemnity with respect such settlement.

The Indemnitee shall give the Indemnitor prompt notice of the commencement of any such Third-Party Claim; *provided, however,* that any failure on the part of Indemnitee to so notify the Indemnitor shall not limit any of the obligations of the Indemnitors under this Article IX (except to the extent such failure materially prejudices the defense of such Third Party Claim).

Section 9.6 No Subrogation. The Indemnitor shall not be entitled to exercise, and shall not be subrogated to, any rights and remedies (including rights of indemnity, rights of contribution and other rights of recovery) that the Indemnitee or any of the Indemnitee's Subsidiaries or other Affiliates may have against any other Person with respect to any Damages, circumstances or matter to which such indemnification is directly or indirectly related.

Section 9.7 Limitation on Damages. Notwithstanding anything to the contrary elsewhere in this Agreement or provided for under any applicable Law, no Party nor any Equityholder or member of the Equityholders Representative, nor any current or former shareholder, director, officer, employee, Affiliate or advisor of any of the foregoing, shall, in any event, be liable to any other Person, either in Contract, tort or otherwise, for any special, incidental, exemplary, consequential or punitive Damages, except to the extent claimed, paid or payable in connection with a Third-Party Claim.

Section 9.8 Characterization of Indemnification Payments. The Parties agree that any indemnification payments made pursuant to this Article IX shall be treated for all Tax purposes as an adjustment to the Merger Consideration unless otherwise required by Law.

Section 9.9 Exclusive Remedy. From and after the Closing, the right of the Parent Indemnitees to be indemnified pursuant to this Article IX shall be the sole and exclusive remedy of the Parent Indemnitees (other than specific performance pursuant to the provisions of Section 10.13) with respect to any breach of any representation, warranty, covenant or agreement of the Company or Equityholders contained in, or any other breach by the Company or Equityholders of, this Agreement. From and after the Closing, the right of the Equityholder Indemnitees to be indemnified pursuant to this Article IX shall be the sole and exclusive remedy of the Equityholder Indemnitees (other than specific performance pursuant to the provisions of Section 10.13) with respect to any breach of any representation, warranty, covenant or agreement of Parent, Merger Sub or Merger LLC contained in, or any other breach by Parent, Merger Sub or Merger LLC of, this Agreement.

ARTICLE X
GENERAL PROVISIONS

Section 10.1 Equityholders Representative.

(a) Appointment. By virtue of the adoption of this Agreement by the Company's stockholders, and without further action of any Equityholder, each Equityholder shall be deemed to have irrevocably constituted and appointed Timothy Langer (and by execution of this Agreement such Person hereby accepts such appointment) to act as the Equityholders Representative under this Agreement in accordance with the terms of this Section 10.1 and (ii) the Equityholders Representative as agent and attorney-in-fact for and on behalf of the Equityholders (in their capacity as such), with full power of substitution, to act in the name, place and stead of each Equityholder with respect to Section 2.7, Section 2.8, Section 6.2, Section 6.8, Article IX and to facilitate the consummation of the transactions contemplated hereby, including the taking by the Equityholders Representative of any and all actions and the making of any decisions required or permitted to be taken by the Equityholders Representative under Section 2.7, Section 2.8, Section 6.2, Section 6.8, Article IX (it being understood that the Equityholders shall have no right to pursue any claim on behalf of any Company Indemnified Party in respect of the rights granted to Company Indemnified Parties under Section 6.6) and to accept on behalf of each Equityholder service of process and any notices required to be served on the Equityholders. All such actions shall be deemed to be facts ascertainable outside the Agreement and shall be binding on the Equityholders as a matter of contract Law. The power of attorney granted in this Section 10.1 is coupled with an interest and is irrevocable, may be delegated by the Equityholders Representative and shall survive the death or incapacity of each Equityholder. Such agency may be changed by the holders of a majority in interest of the Company Common Stock as of Closing. For the avoidance of doubt, any compromise or settlement of any matter by the Equityholders Representative hereunder shall be binding on, and fully enforceable against, all Equityholders. No bond shall be required of the Equityholders Representative, and the Equityholders Representative shall receive no compensation for his services. The Equityholders Representative may designate another Person, upon whose instruction Parent and the Surviving Company shall be entitled to rely, without any investigation or inquiry, as having been taken or not taken upon the authority of the Equityholders Representative.

(b) Limitation on Liability; Release. The Equityholders Representative shall not be liable to any Equityholder for any act of the Equityholders Representative taken in good faith and in the exercise of his reasonable judgment and arising out of or in connection with the acceptance or administration of his duties under this Agreement (it being understood that any act done or omitted pursuant to the advice of legal counsel shall be conclusive evidence of such good faith and reasonable judgment), except to the extent of any Damages actually incurred by such Person as a proximate result of the gross negligence or bad faith of the Equityholders Representative. By virtue of the adoption of this Agreement by the Company's stockholders, and without further action of any Equityholder, each Equityholder shall be deemed to hereby (i) agree that the Equityholders Representative (and the members thereof) shall not be liable for, and may seek indemnification from the Equityholders for, any Damages incurred by the Equityholders Representative (or any member thereof) while acting in good faith and in the exercise of his or his reasonable judgment and arising out of or in connection with the acceptance or administration of his or his duties under this Agreement, and (ii) release the Equityholders Representative from any Liability for any action taken or not taken by the Equityholders Representative in his capacity as such under or in connection with this Agreement, in each such case except to the extent that any such Damages are the proximate result of the gross negligence or bad faith of the Equityholders Representative.

(c) Expenses. The Equityholders Representative shall be entitled to use the Reserve Fund to pay or reimburse any expenses, charges and liabilities, including reasonable attorneys' fees, incurred by the Equityholders Representative in fulfilling his obligations hereunder and shall return any remaining balance of the Reserve Fund to the Equityholders (other than with respect to Dissenting Shares) upon completion by the Equityholders Representative of his duties hereunder.

(d) Actions of the Equityholders Representative. From and after the Effective Time, a decision, act, consent or instruction of the Equityholders Representative with respect to Section 2.7, Section 2.8, Section 6.2, Section 6.8, Article IX shall constitute a decision of all Equityholders and shall be final, binding and conclusive upon each Equityholder, and Parent may conclusively rely upon any decision, act, consent or instruction of the Equityholders Representative as being the decision, act, consent or instruction of each Equityholder. Parent is hereby relieved from any Liability to the Equityholders Representative or any Equityholder for any acts done by Parent in accordance with any such decision, act, consent or instruction of the Equityholders Representative. The Equityholders acknowledge that the Equityholders Representative shall not have any obligations to the Equityholders to expend or risk his own funds or otherwise incur any financial liability in the exercise or performance of any of his powers, rights, duties or privileges or pursuant to this Agreement, or the transactions contemplated hereby or thereby. Furthermore, the Equityholders Representative shall not have any obligations to the Equityholders to take any action unless the Equityholders Representative has been provided with funds, security or indemnities which, in his determination, are sufficient to protect the Equityholders Representative against the costs, expenses and liabilities which may be incurred by the Equityholders Representative in performing such actions.

(e) The Equityholders Representative shall treat confidentially any nonpublic information disclosed to it pursuant to this Agreement and shall not use such nonpublic information other than in the performance of his duties as the Equityholders Representative. In addition, the Equityholders Representative shall not disclose any nonpublic information disclosed to it pursuant to this Agreement to anyone except as required by Law; *provided*, that (i) the Equityholders Representative may disclose such nonpublic information to his legal counsel and other advisors under an obligation of confidentiality and non-use in its capacity as such (for the purpose of advising the Equityholders on any information disclosed to such Equityholders Representative pursuant to this Agreement), (ii) the Equityholders Representative (or legal counsel or other advisor to whom information is disclosed pursuant to clause (i) above) may disclose such nonpublic information in any Action relating to this Agreement or the transactions contemplated hereby (or, in either case, discussion in preparation therefor) any information disclosed to the Equityholders Representative pursuant to this Agreement and (iii) the Equityholders Representative may disclose to any Equityholder or Parent any information disclosed to the Equityholders Representative, on a need-to-know basis; *provided*, that such Equityholder or Parent, as applicable, (A) agrees to observe the terms of this Section 10.1(e) with respect to such information or (B) is bound by an obligation of confidentiality to the Equityholders Representative of at least as high a standard as those imposed on the Equityholders Representative under this Section 10.1(e); *provided, however*, that Parent may in good faith designate any information provided to the Equityholders Representative to be sensitive and proprietary as to Parent, the Surviving Corporation, Surviving Company or any of their Affiliates, in which case such information may not be disclosed by the Equityholders Representative to the Equityholders; *provided, further*, that with respect to any such sensitive and proprietary information, Parent and the Equityholders Representative shall work together in good faith to prepare a summary or abstract of such information that may be disclosed by the Equityholders Representative to the Equityholders.

Section 10.2 Expenses. Except as otherwise expressly provided in this Agreement, all costs and expenses (including all fees and disbursements of counsel, financial advisors and accountants) incurred in connection with the negotiation and preparation of this Agreement, the performance of the terms of this Agreement and the consummation of the transactions contemplated by this Agreement, shall be paid by the respective party incurring such costs and expenses, whether or not the Closing shall have occurred.

Section 10.3 Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given or made as follows: (a) if sent by registered or certified mail in the United States return receipt requested, upon receipt; (b) if sent by nationally recognized overnight air courier, one (1) Business Day after mailing; (c) if sent by facsimile transmission or electronic mail, with a copy mailed on the same day in the manner provided in clauses (a) or (b) of this Section 10.3, when transmitted and receipt is confirmed and (d) if otherwise actually personally delivered, when delivered; *provided*, that such notices, requests, demands and other communications are delivered to the address set forth below, or to such other address as any party shall provide by like notice to the other Parties to this Agreement:

(a) if to Parent, Merger Sub or Merger LLC or, if after the Closing, to the Surviving Corporation or the Surviving Company, to:

Turnstone Biologics Corp.

920 Broadway, 16th Floor
New York, NY 10010
Attention: Sammy Farah, President and Chief Executive Officer
Telephone: [***]
Email: [***]

with a copy (which shall not constitute notice) to:

Cooley LLP
55 Hudson Yards
New York, New York 10001
Attention: Divakar Gupta; Ryan Sansom; Kevin Cooper
Email: [***]

(b) if to the Company (before Closing), to:

Myst Therapeutics, Inc.
3422 Beethoven Street
Los Angeles, CA 90066
Email: [***]
Attention: TJ Langer

with a copy (which shall not constitute notice) to:

Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP
One Marina Park Drive, Suite 900
Boston, MA 02210
Attention: Timothy H. Ehrlich
Facsimile: [***]
Email: [***]

(c) if to the Equityholders Representative, to:

Timothy Langer
[***]
Email: [***]

with a copy to (which shall not constitute notice) to:

Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP
One Marina Park Drive, Suite 900
Boston, MA 02210
Attention: Timothy H. Ehrlich
Facsimile: [***]
Email: [***]

Section 10.4 Public Announcements. The initial press release announcing the execution of this Agreement or upon the Closing, if any, shall be issued in such form as shall be mutually agreed upon by the Company and Parent. Unless otherwise required by applicable Law or applicable stock exchange rules and regulations, no party to this Agreement shall make any public announcements in respect of this Agreement or the transactions contemplated by this Agreement, or otherwise communicate with any news media regarding this Agreement or the transactions contemplated by this Agreement, without the prior written consent of the other Parties to this Agreement. If a public statement is required to be made pursuant to applicable Law or applicable stock exchange rules and regulations, the Parties shall consult with each other, to the extent reasonably practicable, in advance as to the contents and timing thereof.

Section 10.5 Interpretation. The Article and Section headings in this Agreement are for convenience of reference only and shall not be deemed to alter or affect the meaning or interpretation of any provision of this Agreement. References to Articles, Sections, Schedules or Exhibits in this Agreement, unless otherwise indicated, are references to Articles, Sections, Schedules and Exhibits of or to this Agreement. The Parties to this Agreement have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises with respect to any term or provision of this Agreement, this Agreement shall be construed as if drafted jointly by the Parties to this Agreement, and no presumption or burden of proof shall arise favoring or disfavoring any party to this Agreement by virtue of the authorship of any of the terms or provisions of this Agreement. Any reference to any federal, state, county, local or foreign statute or Law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise. All references to “$” or “dollars” herein shall be references to the lawful currency of the United States of America. For all purposes of and under this Agreement, (a) the word “including” shall be deemed to be immediately followed by the words “without limitation;” (b) words (including defined terms) in the singular shall be deemed to include the plural and vice versa; (c) words of one gender shall be deemed to include the other gender as the context requires; (d) the terms “hereof,” “herein,” “hereto,” “herewith” and any other words of similar import shall, unless otherwise stated, be construed to refer to this Agreement as a whole (including all of the Schedules and Exhibits to this Agreement) and not to any particular term or provision of this Agreement, unless otherwise specified; (e) the use of the word “or” shall not be exclusive; and (f) all references to “days” mean calendar days.

Section 10.6 Severability. In the event that any one or more of the terms or provisions contained in this Agreement or in any other certificate, instrument or other document referred to in this Agreement, shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement or any other such certificate, instrument or other document referred to in this Agreement, and the Parties to

this Agreement shall use their commercially reasonable efforts to substitute one or more valid, legal and enforceable terms or provisions into this Agreement which, insofar as practicable, implement the purposes and intent of this Agreement. Any term or provision of this Agreement held invalid, illegal or unenforceable only in part, degree or within certain jurisdictions shall remain in full force and effect to the extent not held invalid, illegal or unenforceable to the extent consistent with the intent of the Parties as reflected by this Agreement.

Section 10.7 Entire Agreement. This Agreement (including the Company Disclosure Schedule, the other Schedules and the Exhibits to this Agreement) and the Confidentiality Agreement constitute the entire agreement of the Parties to this Agreement with respect to the subject matter of this Agreement and the Confidentiality Agreement, and supersede all prior agreements and undertakings, both written and oral, among the Parties to this Agreement with respect to the subject matter of this Agreement and the Confidentiality Agreement, except as otherwise expressly provided in this Agreement.

Section 10.8 Assignment. Neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any of the Parties to this Agreement (whether by operation of Law or otherwise) without the prior written consent of the other parties to this Agreement, and any purported assignment or other transfer without such consent shall be void and unenforceable; *provided*, that Parent, Merger Sub or Merger LLC may transfer or assign its rights and obligations under this Agreement, in whole or from time to time in part, to (i) one or more of their Affiliates at any time and (ii) after the Effective Time, to any Person; *provided*, that such transfer or assignment shall not relieve Parent, Merger Sub or Merger LLC of its obligations hereunder or enlarge, alter or change any obligation of any other party hereto or due to Parent, Merger Sub or Merger LLC. Subject to the preceding sentence, this Agreement shall be binding upon, inure to the benefit of and be enforceable by the Parties to this Agreement and their respective successors and assigns.

Section 10.9 No Third-Party Beneficiaries. Nothing expressed or implied in this Agreement is intended or shall be construed to confer upon or give any Person, other than the Parties hereto, any rights or remedies under or by reason of this Agreement; *provided, however,* that, notwithstanding the foregoing in the event the Closing occurs, the Company Indemnified Parties shall be and are intended third-party beneficiaries of, and may enforce, Section 6.6.

Section 10.10 Waivers and Amendments. This Agreement may be amended or modified only by a written instrument executed by all of the Parties to this Agreement. Any failure of the Parties to this Agreement to comply with any obligation, covenant, agreement or condition in this Agreement may be waived by the party entitled to the benefits thereof only by a written instrument signed by the party granting such waiver. No delay on the part of any party to this Agreement in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any waiver on the part of any party to this Agreement of any right, power or privilege hereunder operate as a waiver of any other right, power or privilege hereunder, nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder. Unless otherwise provided, the rights and remedies provided for in this Agreement are cumulative and are not exclusive of any rights or remedies which the Parties to this Agreement may otherwise have at Law or in equity. Whenever this Agreement requires or permits consent by or on behalf of a party, such consent shall be given in writing in a manner consistent with the requirements for a waiver of compliance as set forth in this Section 10.10.

Section 10.11 Governing Law; Consent to Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the Laws of the State of Delaware applicable to Contracts executed in and to be performed entirely within such State. Each of the Parties to this Agreement hereby irrevocably and unconditionally submits, for itself and its assets and properties, to the exclusive jurisdiction of any Delaware State court, or Federal

court of the United States of America, sitting within the State of Delaware, and any appellate court from any thereof, in any Action arising out of or relating to this Agreement, the agreements delivered in connection with this Agreement, or the transactions contemplated hereby or thereby, or for recognition or enforcement of any judgment relating thereto, and each of the Parties to this Agreement hereby irrevocably and unconditionally (a) agrees not to commence any such Action except in such courts; (b) agrees that any claim in respect of any such Action may be heard and determined in such Delaware State court or, to the extent permitted by Law, in such Federal court; (c) waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any such Action in any such Delaware State or Federal court; and (d) waives, to the fullest extent permitted by Law, the defense of an inconvenient forum to the maintenance of such Action in any such Delaware State or Federal court. Each of the Parties to this Agreement hereby agrees that a final judgment in any such Action shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by Law. Each of the Parties to this Agreement hereby irrevocably consents to service of process in the manner provided for notices in Section 10.3. Nothing in this Agreement shall affect the right of any party to this Agreement to serve process in any other manner permitted by applicable Law.

Section 10.12 Waiver of Jury Trial. EACH PARTY TO THIS AGREEMENT ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND THEREFORE, IT HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT AND ANY OF THE AGREEMENTS DELIVERED IN CONNECTION WITH THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY TO THIS AGREEMENT CERTIFIES AND ACKNOWLEDGES THAT (I) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE EITHER OF SUCH WAIVERS, (II) IT UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF SUCH WAIVERS, (III) IT MAKES SUCH WAIVERS VOLUNTARILY AND (IV) IT HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 10.12.

Section 10.13 Specific Performance. Each of the Parties to this Agreement hereby acknowledge and agree that the failure of it to perform its agreements and covenants hereunder, including its failure to take all actions as are necessary on its part in accordance with the terms and conditions of this Agreement to consummate the Merger, will cause irreparable injury to the other parties, for which Damages, even if available, will not be an adequate remedy. Accordingly, each of the Parties to this Agreement hereby (a) consents to the issuance of injunctive relief by any court of competent jurisdiction to prevent breaches of this Agreement and to compel performance of such party's obligations and to the granting by any court of the remedy of specific performance of its obligations hereunder, without proof of actual Damages and without any requirement that a bond or other security be posted, and (b) agrees that the right of specific performance is an integral part of the transactions contemplated by this Agreement and without that right, the other parties would not have entered into this Agreement. Each of the Parties to this Agreement hereby agrees to waive the defense in any such Action that the other party to this Agreement has an adequate remedy at Law, and agrees not to assert that a remedy of specific enforcement is unenforceable, invalid, contrary to Law or inequitable for any reason or that a remedy of monetary Damages would provide an adequate remedy, and further agrees to interpose no opposition, legal or otherwise, as to the propriety of injunction or specific performance as a remedy, and hereby agrees to waive any requirement to post any bond in connection with obtaining such relief. The equitable remedies described in this Section 10.13 shall be in addition to, and not in lieu of, any other remedies at Law or in equity that the Company may elect to pursue.

Section 10.14 Company Disclosure Schedule. The Parties acknowledge and agree that (a) matters reflected in the Company Disclosure Schedule are not necessarily limited to matters required by this Agreement to be reflected therein; (b) the disclosure of any matter or item in the Company Disclosure Schedule shall not be deemed to constitute, or be deemed to be, an admission of any Liability of the Company or any of its Affiliates, in each case to any Person that is not party to this Agreement, nor an admission against the Company's or any of its Affiliates' interests to such third Person; (c) any disclosure set forth in the Company Disclosure Schedule with respect to a particular representation, warranty or covenant shall be deemed to be a disclosure with respect to all other applicable representations, warranties and covenants contained in this Agreement to the extent that it is readily apparent on its face from a reading of such disclosure that it also qualifies or applies to such other representations, warranties or covenants, notwithstanding the omission of a cross-reference or the omission of a reference in the particular representation, warranty or covenant to the applicable section of the Company Disclosure Schedule; and (d) headings have been inserted in the Company Disclosure Schedule for convenience of reference only.

Section 10.15 Privilege. Parent, Merger Sub, and the Company agree that, as to all communications among Gunderson Dettmer Stough Villeneuve Franklin & Hachigian LLP ("Gunderson") and the Equityholder Representative and the Equityholders and their respective Affiliates (individually and collectively, the "Seller Group") that directly relate to the transactions contemplated by this Agreement, the attorney-client privilege and the exception of client confidence belongs solely to the Seller Group and may be controlled only by the Seller Group and shall not pass to or be claimed by Parent, Merger Sub, Merger LLC, the Surviving Corporation, the Surviving Company, and Company, because the interests of Parent and its Affiliates were directly adverse to the Company, the Equityholders and the Equityholder Representative at the time such communications were made. This right to the attorney-client privilege shall exist even if such communications may exist on the Company's computer system or in documents in the Company's possession. Notwithstanding the foregoing, in the event that a dispute arises between Parent, Merger Sub, Merger LLC, the Surviving Corporation, the Surviving Company and the Company, on the one hand, and a Person other than a party to this Agreement, on the other hand, after the Closing, the Company may assert the attorney-client privilege to prevent disclosure to such third-party of confidential communications by Gunderson to the Company; provided, however, that the Company may not waive such privilege without the prior written consent of the Equityholder Representative.

Section 10.16 Counterparts. This Agreement may be executed and delivered (including by facsimile transmission or electronic mail in portable document format) in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original, but all of which taken together shall constitute one and the same agreement.

[*Remainder of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, Parent, Merger Sub and the Company have caused this Agreement to be executed by their respective officers thereunto duly authorized, and the members of the Equityholders Representative have executed this Agreement, in each case as of the date first above written.

PARENT:

TURNSTONE BIOLOGICS CORP.,

By: /s/ Sammy Farah
Name: Sammy Farah
Title: President and Chief Executive Officer

MERGER SUB I:

FLATIRON MERGER SUB I, INC.

By: /s/ Sammy Farah
Name: Sammy Farah
Title: President and Chief Executive Officer

MERGER SUB II:

FLATIRON MERGER SUB II, LLC

By: /s/ Sammy Farah
Name: Sammy Farah
Title: President and Chief Executive Officer

COMPANY:

MYST THERAPEUTICS, INC.

By: /s/ Timothy Langer
Name: Timothy Langer
Title: Chief Executive Officer

Timothy Langer,
solely in his capacity the Equityholders Representative

/s/ Timothy Langer
Name:

Schedule A

[***]

Exhibit 3.1

SECOND AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
TURNSTONE BIOLOGICS CORP.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Turnstone Biologics Corp., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Turnstone Biologics Corp., and that this corporation was originally incorporated pursuant to the General Corporation Law on December 13, 2018 under the name Turnstone Biologics Corp.

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Turnstone Biologics Corp. (the "**Corporation**").

SECOND: The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, 19801. The name of its registered agent at such address is The Corporation Trust Company.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware (the "**General Corporation Law**").

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 147,892,358 shares of Common Stock, $0.001 par value per share ("**Common Stock**"), (ii) 99,791,338 shares of Preferred Stock, $0.001 par value per share ("**Preferred Stock**").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). Except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Certificate of Incorporation that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected class or series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation or pursuant to the General Corporation Law. There shall be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of capital stock that may be required by the terms of this Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

Of the 99,791,338 shares of Preferred Stock, 11,250,000 shares are hereby designated "**Series A Preferred Stock**," 16,285,156 shares are hereby designated "**Series B-1 Preferred Stock**," 25,065,538 shares are hereby designated as "**Series B-2 Preferred Stock**," 17,905,288 shares are hereby designated "**Series C Preferred Stock**" and 29,285,356 shares are hereby designated "**Series D Preferred Stock**." The Series A Preferred Stock, Series B-1 Preferred Stock, Series B-2 Preferred Stock, Series C Preferred Stock and Series D Preferred Stock are referred to collectively herein as the "**Series Preferred Stock**." The Series Preferred Stock have the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "Sections" or "Subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in this Certificate of Incorporation) the holders of the Series Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Series Preferred Stock on a pari passu basis in an amount equal to (i) in the case of the Series A Preferred Stock, CND$0.08 per share, (ii) in the case of the Series B-1 Preferred Stock, USD$0.06144 per share, (iii) in the case of the Series B-2 Preferred Stock, USD$0.09216 per share, (iv) in the case of the Series C Preferred Stock, USD$0.235126 per share and (v) in the case of the Series D Preferred Stock, USD$0.27317 (in each case, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such shares) in any year from and after the date of the issuance of any shares of Series Preferred Stock (to the extent not previously paid). The foregoing dividends shall be payable when, as, and if declared by the Board of Directors of the Corporation, acting in its

sole discretion. The right to receive the foregoing dividends shall not be cumulative, and no right shall accrue to holders of any shares by reason of the fact that dividends on such shares are not declared and paid in any prior year. In the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, (i) a dividend per share of Series Preferred Stock shall also be paid as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Series Preferred Stock, calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Series Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the applicable Series Original Issue Price (as defined below); provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Series Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series Preferred Stock dividend. The "**Series Original Issue Price**" shall mean CND$1.00 per share of Series A Preferred Stock, USD$0.768 per share of Series B-1 Preferred Stock, USD$1.152 per share of Series B-2 Preferred Stock, USD$2.35126 per share of Series C Preferred Stock and USD$2.73174 per share of Series D Preferred Stock, as applicable, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the applicable Series Preferred Stock.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Series Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Series Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders or, in the case of a Deemed Liquidation Event (as defined below), out of the consideration payable to stockholders in such Deemed Liquidation Event or the Available Proceeds (as defined below), before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the applicable Series Original Issue Price, plus any dividends declared but unpaid thereon. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, after the payment in full of all Series Liquidation Amounts, as defined in this Section 2.2, required to be paid to the holders of shares of Series Preferred Stock pursuant to Section 2.1, the remaining assets of the Corporation available for distribution to its stockholders or, in the case of a Deemed Liquidation Event, the consideration not payable to the holders of shares of Series Preferred Stock pursuant to Section 2.1 or the remaining Available Proceeds, as the case may be, shall be distributed among the holders of the shares of Series Preferred Stock and Common Stock, pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of this Certificate of Incorporation immediately prior to such liquidation, dissolution or winding up of the Corporation. The aggregate amount which a holder of a share of Series Preferred Stock is entitled to receive under Subsections 2.1 and 2.2 is hereinafter referred to as the "**Series Liquidation Amount**."

2.3 Deemed Liquidation Events.

2.3.1. Definition. Each of the following events shall be considered a "**Deemed Liquidation Event**" unless the holders of at least a majority of the then outstanding shares of Series Preferred Stock, consenting or voting together as a single class on an as-converted to Common Stock basis (the "**Required Majority**") elects otherwise by written notice sent to the Corporation at least ten (10) days prior to the effective date of any such event:

(a) a merger, amalgamation or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation;

(b) (1) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets (or all or substantially all of the intellectual property) of the Corporation and its subsidiaries taken as a whole, or (2) the sale or disposition (whether by merger, consolidation or otherwise, and whether in a single transaction or a series of related transactions) of one or more subsidiaries of the Corporation if substantially all of the assets (or all or substantially all of the intellectual property) of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation; or

(c) any sale or other disposition or series of related sales or dispositions of the outstanding capital stock (other than, for the avoidance of doubt, an issuance from treasury of securities in capital of the Corporation) in which an individual, firm, corporation, partnership, association, limited liability company, trust or any other entity (each, a "**Person**"), or a group of related Persons, acquires from stockholders of the Corporation shares representing more than fifty percent (50%) of the outstanding voting power of the Corporation.

2.3.2. Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(i), and shall not be a party to any Deemed Liquidation Event referred to in Subsection 2.3.1(c), unless the agreement or plan of merger or consolidation for such transaction (the "**Merger Agreement**") provides that the consideration payable to the stockholders of the Corporation in such Deemed Liquidation Event shall be paid to the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Series Preferred Stock no later than the ninetieth (90th) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of Series Preferred Stock, and (ii) if the Required Majority so request in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the "**Available Proceeds**"), on the one hundred fiftieth (150th) day after such Deemed Liquidation Event, to redeem all outstanding shares of Series Preferred Stock at a price per share equal to the applicable Series Liquidation Amount (the "**DLE Redemption Price**"). Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Series Preferred Stock, the Corporation shall redeem a pro rata portion of each holder's shares of Series Preferred Stock on a pari passu basis to the fullest extent of such Available Proceeds, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the Available Proceeds were sufficient to redeem all such shares, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. Prior to the distribution or redemption provided for in this Subsection 2.3.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business. A redemption pursuant to this Subsection 2.3.2(b) shall be effected in accordance with Subsections 2.3.2(c), (d) and (e) below.

(c) DLE Redemption Notice. In connection with a redemption under Subsection 2.3.2(b), the Corporation shall send written notice of the mandatory redemption pursuant to this Subsection 2.3.2(c) (the "**DLE Redemption Notice**") to each holder of record of Series Preferred Stock not less than forty (40) days prior to the date of such redemption (the "**DLE Redemption Date**"). Each DLE Redemption Notice shall state:

(i) the number of shares of Series Preferred Stock held by the holder that the Corporation shall redeem on the DLE Redemption Date specified in the DLE Redemption Notice;

(ii) the DLE Redemption Date and the DLE Redemption Price;

(iii) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(iv) that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Series Preferred Stock to be redeemed.

(d) Surrender of Certificates; Payment. On or before the DLE Redemption Date, each holder of shares of Series Preferred Stock to be redeemed on such DLE Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the DLE Redemption Notice, and thereupon the DLE Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Series Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Series Preferred Stock shall promptly be issued to such holder.

(e) Rights Subsequent to Redemption. If the DLE Redemption Notice shall have been duly given, and if on the applicable DLE Redemption Date the DLE Redemption Price payable upon redemption of the shares of Series Preferred Stock to be redeemed on such DLE Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that the certificates evidencing any of the shares of Series Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Series Preferred Stock shall cease to accrue after such DLE Redemption Date and all rights with respect to such shares shall forthwith after the DLE Redemption Date terminate, except only the right of the holders to receive the DLE Redemption Price without interest upon surrender of their certificate or certificates therefor.

2.3.3. Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption (including any Deemed Liquidation Event) shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board of Directors of the Corporation, including the approval of a majority of the Preferred Directors.

2.3.4. Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Subsection 2.3.1(a) or Subsection 2.3.1(c), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "**Additional Consideration**"), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 after taking into account the previous payment of the Initial Consideration as part of the same transaction (including whether any deemed conversion of a series of Series Preferred Stock would have occurred as a result of the payment of the Additional Consideration). For the purposes of this Subsection 2.3.4, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

3. Voting.

3.1 General.

3.1.1. Series Preferred Stock. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Series Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Series Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter.

3.1.2. Except as provided by law or by the other provisions of this Certificate of Incorporation, holders of Series Preferred Stock shall vote together with the holders of Common Stock as a single class and on an as-converted to Common Stock basis.

3.2 Election of Directors. The holders of record of the shares of Series Preferred Stock (exclusively, together as a separate class and on an as-converted to Common Stock basis) shall be entitled to elect five (5) directors of the Corporation (the "**Preferred Directors**") and the holders of record of the shares of Common Stock (exclusively and together as a separate class) shall be entitled to elect one (1) director of the Corporation. Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the classes or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Series Preferred Stock, or the holders of shares Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Subsection 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Series Preferred Stock, or Common Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and Series Preferred Stock, voting together as a single class on an as-converted to Common Stock basis, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority, by voting power, of the classes or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Subsection 3.2, a vacancy in any directorship filled by the holders of any classes or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such classes or series or by any remaining director or directors elected by the holders of such classes or series pursuant to this Subsection 3.2.

3.3 Series Preferred Stock Protective Provisions. At any time when any shares of Series Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of the Required Majority, given in writing or by vote at a meeting (as the case may be), and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.3.1. liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent to any of the foregoing;

3.3.2. amend, alter or repeal any provision of this Certificate of Incorporation or the Bylaws of the Corporation;

3.3.3. (i) create, or authorize the creation of, or issue, any additional class or series of capital stock unless the same ranks junior to the Series Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption, or increase the authorized number of shares of Series Preferred Stock or (ii) increase the authorized number of shares of Series Preferred Stock and Common Stock;

3.3.4. (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Series Preferred Stock in respect of any such right, preference or privilege;

3.3.5. purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Series Preferred Stock as expressly authorized herein, (ii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at a purchase price that does not exceed the then-current fair market value thereof as approved by the Board of Directors of the Corporation;

3.3.6. create, or authorize the creation of, or issue, or authorize the issuance of any debt security or create any lien or security interest (except for purchase money liens or statutory liens of landlords, mechanics, materialmen, workmen, warehousemen and other similar persons arising or incurred in the ordinary course of business) or incur other indebtedness for borrowed money, including but not limited to obligations and contingent obligations under guarantees, or permit any subsidiary to take any such action with respect to any debt security lien, security interest or other indebtedness for borrowed money, if the aggregate indebtedness of the Corporation and its subsidiaries for borrowed money following such action would exceed $250,000 other than trade payables incurred in the ordinary course of business;

3.3.7. create, or hold capital stock in, any subsidiary that is not wholly owned (either directly or through one or more other subsidiaries) by the Corporation, or permit any subsidiary to create, or authorize the creation of, or issue or obligate itself to issue, any shares of any class or series of capital stock, or sell, transfer or otherwise dispose of any capital stock of any direct or indirect subsidiary of the Corporation, or permit any direct or indirect subsidiary to sell, lease, transfer, exclusively license or otherwise dispose (in a single transaction or series of related transactions) of all or substantially all of the assets of such subsidiary other than to the Corporation (or another wholly-owned subsidiary of the Corporation);

3.3.8. increase or decrease the authorized number of directors constituting the Board of Directors of the Corporation;

3.3.9. effect any acquisition of the share capital of another entity that results in the consolidation of that entity into the results of operations of the Corporation, or acquiring all or substantially all of the assets of another entity;

3.3.10. taking any action to acknowledge the insolvency of the Corporation, including, for greater certainty, consent to the appointment by a secured creditor of a receiver or Person acting in a similar capacity in respect of the Corporation;

3.3.11. make, or permit any subsidiary to make, any loan or advance to any Person, including, without limitation, any employee or director of the Corporation or any subsidiary, except advances and similar expenditures in the ordinary course of business or under the terms of an employee stock or option plan approved by the Board of Directors of the Corporation;

3.3.12. otherwise enter into or be a party to any transaction with any director, officer, or employee of the Corporation or any "associate" (as defined in Rule 12b-2 promulgated under the Exchange Act) of any such Person, except for (i) transactions contemplated herein, (ii) research agreements or other similar transactions resulting in payments to or by the Corporation in an aggregate amount less than $60,000 per year; (iii) option grants made pursuant to the to a plan, agreement or arrangement approved by the Board of Directors of the Corporation, (iv) employment or consulting arrangements made in the ordinary course of business and pursuant to reasonable requirements of the Corporation's business and upon fair and reasonable terms that are approved by a majority of the Board of Directors of the Corporation;

3.3.13. hire a Chief Executive Officer;

3.3.14. enter into any transaction or arrangement outside of the ordinary course of business of the Corporation, including changing the principal business of the Corporation, acquiring or entering new lines of business, or exiting or terminating any substantial part of the current line of business;

3.3.15. sell, assign, license, pledge, or encumber material technology or intellectual property, other than licenses granted in the ordinary course of business; or

3.3.16. enter into any corporate strategic relationship involving the payment, contribution, or assignment by the Corporation or to the Corporation of money or assets greater than $500,000;

3.3.17. change the principal business of the Corporation, enter into new lines of business or exit the current line of business;

3.3.18. make any investment inconsistent with any investment policy approved by the Board of Directors of the Corporation;

3.3.19. approve or adopt any new equity incentive plan or increase the number of reserved shares of Common Stock issuable to employees, directors or consultants under any new or existing equity incentive plan; or

3.3.20. commit or agree to do any of the foregoing.

3.4 Series C Preferred Stock Protective Provisions. At any time when any shares of Series C Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of holders of at least a majority of the outstanding shares of Series C Preferred Stock (the "**Series C Requisite Holders**"), consenting or voting as a separate class, given in writing or by vote at a meeting (as the case may be), and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.4.1. waive, alter, amend, repeal or change the rights, preferences, or privileges of the Series C Preferred Stock so as to adversely affect the Series C Preferred Stock (provided that, for the avoidance of doubt, the creation, authorization or issuance of any shares of Preferred Stock with rights senior to or *pari passu* with the rights, preferences, privileges and restrictions, qualifications or limitations of the Series C Preferred Stock shall be deemed not to constitute an amendment that adversely affects the rights, preferences, privileges and restrictions, qualifications or limitations of the Series C Preferred Stock);

3.4.2. waive, alter, amend, repeal or change the Series Original Issue Price or the Series Conversion Price, each as applicable to the Series C Preferred Stock;

3.4.3. waive, alter, amend, repeal or change this Section 3.4 or any of the rights specifically and separately granted to the Series C Preferred Stock or the Series C Requisite Holders under Section 4.4.2 or Article Eleventh;

3.4.4. increase the number of authorized shares of Series C Preferred Stock; or

3.4.5. (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series C Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series C Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series C Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Series C Preferred Stock in respect of any such right, preference or privilege.

3.5 Series A Preferred Stock Protective Provisions. At any time when any shares of Series A Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of holders of at least a majority of the outstanding shares of Series A Preferred Stock, consenting or voting as a separate class, given in writing or by vote at a meeting (as the case may be), and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.5.1. waive, alter, amend, repeal or change the rights, preferences, or privileges of the Series A Preferred Stock so as to adversely affect the Series A Preferred Stock (provided that, for the avoidance of doubt, the creation, authorization or issuance of any shares of Preferred Stock with rights senior to or *pari passu* with the rights, preferences, privileges and restrictions, qualifications or limitations of the Series A Preferred Stock shall be deemed not to constitute an amendment that adversely affects the rights, preferences, privileges and restrictions, qualifications or limitations of the Series A Preferred Stock);

3.5.2. waive, alter, amend, repeal or change the Series Original Issue Price or the Series Conversion Price, each as applicable to the Series A Preferred Stock;

3.5.3. waive, alter, amend, repeal or change this Section 3.5;

3.5.4. increase the number of authorized shares of Series A Preferred Stock; or

3.5.5. (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series A Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series A Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series A Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Series A Preferred Stock in respect of any such right, preference or privilege.

3.6 Series B-1 Preferred Stock Protective Provisions. At any time when any shares of Series B-1 Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of holders of at least a majority of the outstanding shares of Series B-1 Preferred Stock, consenting or voting as a separate class, given in writing or by vote at a meeting (as the case may be), and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.6.1. waive, alter, amend, repeal or change the rights, preferences, or privileges of the Series B-1 Preferred Stock so as to adversely affect the Series B-1 Preferred Stock (provided that, for the avoidance of doubt, the creation, authorization or issuance of any shares of Preferred Stock with rights senior to or *pari passu* with the rights, preferences, privileges and restrictions, qualifications or limitations of the Series B-1 Preferred Stock shall be deemed not to constitute an amendment that adversely affects the rights, preferences, privileges and restrictions, qualifications or limitations of the Series B-1 Preferred Stock);

3.6.2. waive, alter, amend, repeal or change the Series Original Issue Price or the Series Conversion Price, each as applicable to the Series B-1 Preferred Stock;

3.6.3. waive, alter, amend, repeal or change this Section 3.6;

3.6.4. increase the number of authorized shares of Series B-1 Preferred Stock; or

3.6.5. (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series B-1 Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series B-1 Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series B-1 Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Series B-1 Preferred Stock in respect of any such right, preference or privilege.

3.7 Series B-2 Preferred Stock Protective Provisions. At any time when any shares of Series B-2 Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of holders of at least a majority of the outstanding shares of Series B-2 Preferred Stock, consenting or voting as a separate class, given in writing or by vote at a meeting (as the case may be), and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.7.1. waive, alter, amend, repeal or change the rights, preferences, or privileges of the Series B-2 Preferred Stock so as to adversely affect the Series B-2 Preferred Stock (provided that, for the avoidance of doubt, the creation, authorization or issuance of any shares of Preferred Stock with rights senior to or *pari passu* with the rights, preferences, privileges and restrictions, qualifications or limitations of the Series B-2 Preferred Stock shall be deemed not to constitute an amendment that adversely affects the rights, preferences, privileges and restrictions, qualifications or limitations of the Series B-2 Preferred Stock);

3.7.2. waive, alter, amend, repeal or change the Series Original Issue Price or the Series Conversion Price, each as applicable to the Series B-2 Preferred Stock;

3.7.3. waive, alter, amend, repeal or change this Section 3.7;

3.7.4. increase the number of authorized shares of Series B-2 Preferred Stock; or

3.7.5. (i) reclassify, alter or amend any existing security of the Corporation that is *pari passu* with the Series B-2 Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series B-2 Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series B-2 Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or *pari passu* with the Series B-2 Preferred Stock in respect of any such right, preference or privilege.

3.8 Series D Preferred Stock Protective Provisions. At any time when any shares of Series D Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of holders of at least a majority of the outstanding shares of Series D Preferred Stock (the "**Series D Requisite Holders**"), consenting or voting as a separate class, given in writing or by vote at a meeting (as the case may be), and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

3.8.1. waive, alter, amend, repeal or change the rights, preferences, or privileges of the Series D Preferred Stock so as to adversely affect the Series D Preferred Stock (provided that, for the avoidance of doubt, the creation, authorization or issuance of any shares of Preferred Stock with rights senior to or *pari passu* with the rights, preferences, privileges and restrictions, qualifications or limitations of the Series D Preferred Stock shall be deemed not to constitute an amendment that adversely affects the rights, preferences, privileges and restrictions, qualifications or limitations of the Series D Preferred Stock);

3.8.2. waive, alter, amend, repeal or change the Series Original Issue Price or the Series Conversion Price, each as applicable to the Series D Preferred Stock;

3.8.3. waive, alter, amend, repeal or change this Section 3.8 or any of the rights specifically and separately granted to the Series D Preferred Stock or the Series D Requisite Holders under Section 4.4.2 or Article Eleventh;

3.8.4. increase or decrease the number of authorized shares of Series D Preferred Stock; or

3.8.5. reclassify, alter or amend any existing security of the Corporation that is *pari passu* with the Series D Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series D Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series D Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends, voting rights or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or *pari passu* with the Series D Preferred Stock in respect of any such right, preference or privilege.

4. Optional Conversion.

The holders of the Series Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 Right to Convert.

4.1.1. Conversion Ratio. Each share of Series Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the applicable Series Original Issue Price by the applicable Series Conversion Price (as defined below) in effect at the time of conversion; provided that such holder may waive such option to convert upon written notice to the Company. The "**Series Conversion Price**" shall initially be equal to the applicable Series Original Issue Price for such series of Series Preferred Stock. Such initial Series Conversion Price, and the rate at which shares of Series Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2. Termination of Conversion Rights. In the event of a notice of redemption of any shares of Series Preferred Stock pursuant to Subsection 2.3.2 or Section 6, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Series Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock or shall be issued upon conversion of the Series Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Series Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1. Notice of Conversion. In order for a holder of Series Preferred Stock to voluntarily convert shares of Series Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Series Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Series Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Series Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Series Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied

by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the specified shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, (i) issue and deliver to such holder of Series Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Series Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Series Preferred Stock converted.

4.3.2. Reservation of Shares. The Corporation shall at all times when the Series Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Series Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Series Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate of Incorporation. Before taking any action which would cause an adjustment reducing any Series Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the Series Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Series Conversion Price.

4.3.3. Effect of Conversion. All shares of Series Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Series Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series Preferred Stock accordingly.

4.3.4. No Further Adjustment. Upon any such conversion, no adjustment to the Series Conversion Price shall be made for any declared but unpaid dividends on the Series Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5. Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Series Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Series Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Series Conversion Price for Diluting Issues.

4.4.1. Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) "**Option**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "**Original Issue Date**" shall mean the date of the filing of this Certificate of Incorporation.

(c) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "**Exempted Securities**"):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Series Preferred Stock;

(ii) shares of Common Stock issued in a Qualified IPO (as defined below);

(iii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4.5, 4.6, 4.7 or 4.8;

(iv) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation;

(v) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(vi) warrants issued to lenders or equipment lessors which have been approved by the Board of Directors of the Corporation, including a majority of the Preferred Directors; or

(vii) shares of Common Stock, Options or Convertible Securities issued pursuant to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided, that such issuances are not part of a financing transaction and are approved by the Board of Directors of the Corporation, including a majority of the Preferred Directors.

4.4.2. No Adjustment of Series Conversion Price. No adjustment in the Series Conversion Price applicable to any of the Series Preferred Stock other than the Series C Preferred Stock or the Series D Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Required Majority, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Series Conversion Price applicable to Series C Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Series C Requisite Holders, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Series Conversion Price applicable to Series D Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Series D Requisite Holders, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3. Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Series Conversion Price pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Series Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Series Conversion Price as would have been obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Series Conversion Price to an amount which exceeds the lower of (i) the Series Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Series Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are Exempted Securities), the issuance of which did not result in an adjustment to the Series Conversion Price pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Series Conversion Price then in effect, or because such Option or Convertible Security was issued before the Original Issue Date), are revised after the Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion

or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Series Conversion Price pursuant to the terms of Subsection 4.4.4, the Series Conversion Price shall be readjusted to such Series Conversion Price as would have been obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Series Conversion Price provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Series Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Series Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4. Adjustment of Series Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the applicable Series Conversion Price of any series of Preferred Stock in effect immediately prior to such issuance or deemed issuance, then such Series Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP_2" shall mean the Series Conversion Price of such series of Preferred Stock in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock

(b) "CP_1" shall mean the Series Conversion Price of such series of Preferred Stock in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued or deemed issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5. Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issuance or deemed issuance of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding any underwriting or similar commissions, compensation or concessions paid or allowed by the Corporation in connection with such issue or sale but without deduction of any other expenses payable by the Corporation;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of the Corporation.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing

(i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6. Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Series Conversion Price pursuant to the terms of Subsection 4.4.4, then, upon the final such issuance, the Series Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the applicable Series Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the applicable Series Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the applicable Series Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the applicable Series Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the applicable Series Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the applicable Series Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) no such adjustment shall be made if the holders of applicable Series Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of such Series Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Series Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Series Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Series Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.4, 4.6 or 4.7),

then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Series Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Series Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Series Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Series Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Series Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the applicable Series Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Series Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Series Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the applicable Series Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of such Series Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Series Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Series Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger,

transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Series Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Series Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the Corporation's sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, following which the shares of Common Stock shall be listed or quoted on the Nasdaq National Market or New York Stock Exchange, at a price per share of at least $3.41468 (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof) and resulting in at least $50,000,000 of gross proceeds to the Corporation (a public offering contemplated by this clause (a) is sometimes referred to herein as a "**Qualified IPO**") or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Required Majority (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "**Mandatory Conversion Time**"), then (i) all outstanding shares of Series Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Subsection 4.1.1 and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Series Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Series Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of any such notice, each holder of shares of the applicable Series Preferred Stock shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Series Preferred Stock converted pursuant to Subsection 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender the certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Subsection 5.2. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate

affidavit and agreement) for the Series Preferred Stock, the Corporation shall issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Series Preferred Stock converted. Such converted Series Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series Preferred Stock (and each series thereof) accordingly.

6. Redemption.

6.1 General. Unless prohibited by Delaware law governing distributions to stockholders, and subject to Section 6.2 below, the Corporation shall offer to redeem all outstanding shares of Series Preferred Stock at a price equal to the applicable Series Original Issue Price per share, plus all declared but unpaid dividends thereon (the "**Redemption Price**"), upon the written request by the Required Majority made at any time on or after June 29, 2026 (the "**Redemption Request**"). Upon receipt of a Redemption Request, the Corporation shall apply all of its assets to any such redemption, and to no other corporate purpose, except to the extent prohibited by Delaware law governing distributions to stockholders. On the Redemption Date (as defined below), the Corporation shall redeem the Included Shares (as defined below). Notwithstanding the foregoing, if on the Redemption Date, Delaware law governing distributions to stockholders prevents the Corporation from redeeming all Included Shares, the Corporation shall ratably redeem the maximum number of Included Shares that it may redeem consistent with such law, and shall redeem the remaining Included Shares as soon as it may lawfully do so under such law.

6.2 Redemption Notice. Subject to Section 6.1, the Corporation shall send written notice of its receipt of the Redemption Request (the "**Redemption Notice**") to each holder of record of Series Preferred Stock not less than twenty (20) days after the delivery to the Corporation of the Redemption Request. Each Redemption Notice shall state:

(a) the number of shares of Series Preferred Stock held by the holder that the Corporation is offering to redeem;

(b) the date on which the Corporation intends to redeem the Included Shares (the "**Redemption Date**");

(c) the Redemption Price; and

(d) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Series Preferred Stock to be redeemed.

If the Corporation receives, on or prior to the tenth (10th) day after the date of delivery of the Redemption Notice, written notice from a holder of Series Preferred Stock of the number of such holder's shares of Series Preferred Stock to be included in the redemption provided in this Section 6 (any such shares, the "**Included Shares**"), then such Included Shares shall be redeemed in accordance with this Section 6. All shares of Series Preferred Stock other than Included Shares shall not be redeemed or redeemable pursuant to this Section 6, whether on such Redemption Date or thereafter. The Redemption Date shall be not earlier than twenty (20) days, and not greater than thirty (30) days, after the date of delivery of the Redemption Notice to the holders of Series Preferred Stock.

6.3 Surrender of Certificates; Payment. On or before the Redemption Date, each holder of shares of Series Preferred Stock to be redeemed shall, if a holder of shares in certificated form, surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Series Preferred Stock represented by a certificate are redeemed, a new certificate, instrument, or book entry representing the unredeemed shares of Series Preferred Stock shall promptly be issued to such holder.

6.4 Rights Subsequent to Redemption. If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the Redemption Price payable upon redemption of the shares of Series Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that any certificates evidencing any of the shares of Series Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Series Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of any such certificate or certificates therefor.

7. Redeemed or Otherwise Acquired Shares. Any shares of Series Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Series Preferred Stock following redemption.

8. Waiver. Except as otherwise set forth herein, any of the rights, powers, preferences and other terms of the Series Preferred Stock set forth herein may be waived on behalf of all holders of Series Preferred Stock by the affirmative written consent or vote of the Required Majority.

9. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Series Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

10. Currency. All currency amounts stated herein shall be United States dollars except as otherwise noted with respect to the Series A Preferred Stock, which are denominated in Canadian dollars.

FIFTH: Subject to any additional vote required by this Certificate of Incorporation or the Bylaws of the Corporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors of the Corporation is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by this Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation. Each director shall be entitled to one vote on each matter presented to the Board of Directors of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended. Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law. Any amendment, repeal or modification of the foregoing provisions of this Article Tenth shall not (a) adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification or (b) increase the liability of any director of the Corporation with respect to any acts or omissions of such director, officer or agent occurring prior to, such amendment, repeal or modification

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Series Preferred Stock, or any partner, member, director, stockholder, employee, affiliate or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, the persons referred to in clauses (i) and (ii) are "**Covered Persons**"), unless such matter, transaction or interest is presented to or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation while such Covered Person is performing services in such capacity. Any repeal or modification of this Article Eleventh will only be prospective and will not affect the rights under this Article Eleventh in effect at the time of the occurrence of any actions or omissions to act giving rise to liability. Notwithstanding anything to the contrary contained elsewhere in this Certificate of Incorporation, the affirmative vote of the Required Majority, the Series D Requisite Holders and the Series C Requisite Holders will be required to amend or repeal, or to adopt any provisions inconsistent with this Article Eleventh.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

* * *

[Signature Page Follows]

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 29th day of June, 2021.

By: /s/ Sammy Farah
Sammy Farah
Chief Executive Officer

BYLAWS

OF

TURNSTONE BIOLOGICS CORP.

(A DELAWARE CORPORATION)

ARTICLE I

OFFICES

Section 1. Registered Office. The registered office of the corporation in the State of Delaware is 1209 Orange Street, City of Wilmington, County of New Castle, 19801 or in such other location as the Board of Directors may from time to time determine or the business of the corporation may require.

Section 2. Other Offices. The corporation will also have and maintain an office or principal place of business at such place as may be fixed by the Board of Directors, and may also have offices at such other places, both within and without the State of Delaware, as the Board of Directors may from time to time determine or the business of the corporation may require.

ARTICLE II

CORPORATE SEAL

Section 3. Corporate Seal. The Board of Directors may adopt a corporate seal. Said seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

ARTICLE III

STOCKHOLDERS' MEETINGS

Section 4. Place of Meetings. Meetings of the stockholders of the corporation may be held at such place, either within or without the State of Delaware, as may be determined from time to time by the Board of Directors. The Board of Directors may, in its sole discretion, determine that the meeting will not be held at any place, but may instead be held solely by means of remote communication as provided under the Delaware General Corporation Law ("***DGCL***").

Section 5. Annual Meeting.

(a) The annual meeting of the stockholders of the corporation, for the purpose of election of directors and for such other business as may lawfully come before it, will be held on such date and at such time as may be designated from time to time by the Board of Directors, or the Chairman or the President in the absence of the Chairman. Nominations of persons for election to the Board of Directors of the corporation and the proposal of business to be considered by the stockholders may be made at an annual meeting of stockholders: (i) pursuant to the corporation's notice of meeting of stockholders; (ii) by or at the direction of the Board of Directors; or (iii) by any stockholder of the corporation who was a stockholder of record at the time of giving of notice provided for in the following paragraph, who is entitled to vote at the meeting and who complied with the notice procedures set forth in this Section.

(b) At an annual meeting of the stockholders, only such business will be conducted as has been properly brought before the meeting. For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of paragraph (a) of this Section, (i) the stockholder must have given timely notice thereof in writing to the Secretary of the corporation, (ii) such other business must be a proper matter for stockholder action under the DGCL and applicable law, (iii) if the stockholder, or the beneficial owner on whose behalf any such proposal or nomination is made, has provided the corporation with a Solicitation Notice (as defined in this paragraph), such stockholder or beneficial owner must, in the case of a proposal, have delivered a proxy statement and form of proxy to holders of at least the percentage of the corporation's voting shares required under applicable law to carry any such proposal, or, in the case of a nomination or nominations, have delivered a proxy statement and form of

proxy to holders of a percentage of the corporation's voting shares reasonably believed by such stockholder or beneficial owner to be sufficient to elect the nominee or nominees proposed to be nominated by such stockholder, and must, in either case, have included in such materials the Solicitation Notice, and (iv) if no Solicitation Notice relating thereto has been timely provided pursuant to this Section, the stockholder or beneficial owner proposing such business or nomination must not have solicited a number of proxies sufficient to have required the delivery of such a Solicitation Notice under this Section. To be timely, a stockholder's notice will be delivered to the Secretary at the principal executive offices of the corporation not later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting; *provided, however*, that in the event that the date of the annual meeting is advanced more than 30 days prior to or delayed by more than 30 days after the anniversary of the preceding year's annual meeting, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the day on which public announcement of the date of such meeting is first made. In no event will the public announcement of an adjournment of an annual meeting commence a new time period for the giving of a stockholder's notice as described above. Such stockholder's notice will set forth: (A) as to each person whom the stockholder proposed to nominate for election or reelection as a director all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "***1934 Act***"), and Rule 14a-4(d) thereunder (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected); (B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made; and (C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made (i) the name and address of such stockholder, as they appear on the corporation's books, and of such beneficial owner, (ii) the class and number of shares of the corporation that are owned beneficially and of record by such stockholder and such beneficial owner, and (iii) whether either such stockholder or beneficial owner intends to deliver a proxy statement and form of proxy to holders of, in the case of the proposal, at least the percentage of the corporation's voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the corporation's voting shares to elect such nominee or nominees (an affirmative statement of such intent, a "***Solicitation Notice***").

(c) Notwithstanding anything in the second sentence of paragraph (b) of this Section to the contrary, in the event that the number of directors to be elected to the Board of Directors of the corporation is increased and there is no public announcement naming all of the nominees for director or specifying the size of the increased Board of Directors made by the corporation at least 100 days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by this Section will also be considered timely, but only with respect to nominees for any new positions created by such increase, if it is delivered to the Secretary at the principal executive offices of the corporation not later than the close of business on the 10th day following the day on which such public announcement is first made by the corporation.

(d) Only such persons who are nominated in accordance with the procedures set forth in this Section (or elected or appointed pursuant to Article IV of these Bylaws) will be eligible to serve as directors and only such business will be conducted at a meeting of stockholders as has been brought before the meeting in accordance with the procedures set forth in this Section. Except as otherwise provided by law, the Chairman of the meeting will have the power and duty to determine whether a nomination or any business proposed to be brought before the meeting was made, or proposed, as the case may be, in accordance with the procedures set forth in these Bylaws and, if any proposed nomination or business is not in compliance with these Bylaws, to declare that such defective proposal or nomination will not be presented for stockholder action at the meeting and will be disregarded.

(e) Notwithstanding the foregoing provisions of this Section, in order to include information with respect to a stockholder proposal in the proxy statement and form of proxy for a stockholders' meeting, stockholders must provide notice as required by the regulations promulgated under the 1934 Act. Nothing in these Bylaws is deemed to affect any rights of stockholders to request inclusion of proposals in the corporation proxy statement pursuant to Rule 14a-8 under the 1934 Act.

(f) For purposes of this Section, "public announcement" means disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the corporation with the Securities and Exchange Commission (the "***SEC***") pursuant to Section 13, 14 or 15(d) of the 1934 Act.

Section 6. Special Meetings.

(a) Special meetings of the stockholders of the corporation may be called, for any purpose or purposes, by the Board of Directors pursuant to a resolution adopted by directors representing a quorum of the Board of Directors.

(b) If a special meeting is properly called by any person or persons other than the Board of Directors, the request will be in writing, specifying the general nature of the business proposed to be transacted, and will be delivered personally or sent by certified or registered mail, return receipt requested, or by telegraphic or other facsimile transmission to the Chairman of the Board of Directors, the Chief Executive Officer, or the Secretary of the corporation. No business may be transacted at such special meeting otherwise than specified in such notice. The Board of Directors will determine the time and place of such special meeting, which will be held not less than 35 nor more than 120 days after the date of the receipt of the request. Upon determination of the time and place of the meeting, the officer receiving the request will cause notice to be given to the stockholders entitled to vote, in accordance with the provisions of Section 7 of these Bylaws. Nothing contained in this paragraph (b) is to be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board of Directors may be held.

Section 7. Notice of Meetings. Except as otherwise provided by law, notice, given in writing or by electronic transmission, of each meeting of stockholders will be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting, such notice to specify the place, if any, date and hour, in the case of special meetings, the purpose or purposes of the meeting, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at any such meeting. If mailed, notice is given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the corporation. Notice of the time, place, if any, and purpose of any meeting of stockholders may be waived in writing, signed by the person entitled to notice thereof or by electronic transmission by such person, either before or after such meeting, and will be waived by any stockholder by his or her attendance thereat in person, by remote communication, if applicable, or by proxy, except when the stockholder attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Any stockholder so waiving notice of such meeting will be bound by the proceedings of any such meeting in all respects as if due notice thereof had been given.

Section 8. Quorum. At all meetings of stockholders, except as otherwise provided by statute, the Certificate of Incorporation or these Bylaws, the presence, in person, by remote communication, if applicable, or by proxy duly authorized, of the holders of a majority of the outstanding shares of stock entitled to vote will constitute a quorum for the transaction of business. In the absence of a quorum, any meeting of stockholders may be adjourned, from time to time, either by the chairman of the meeting or by vote of the holders of a majority of the shares represented thereat, but no other business will be transacted at such meeting. The stockholders present at a duly called or convened meeting, at which a quorum is present, may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum. Except as otherwise provided by statute, the Certificate of Incorporation or these Bylaws, in all matters other than the election of directors, the affirmative vote of a majority of shares present in person, by remote communication, if applicable, or represented by proxy duly authorized at the meeting and entitled to vote generally on the subject matter will be the act of the stockholders. Except as otherwise provided by statute, the Certificate of Incorporation or these Bylaws, directors will be elected by a plurality of the votes of the shares present in person, by remote communication, if applicable, or represented by proxy duly authorized at the meeting and entitled to vote generally on the election of directors. Where a separate vote by a class or classes or series is required, except where otherwise provided by statute, the Certificate of Incorporation or these Bylaws, a majority of the outstanding shares of such class or classes or series, present in person, by remote communication, if applicable, or represented by proxy duly authorized, will constitute a quorum entitled to take action with respect to that vote on that matter. Except as otherwise provided by statute, the Certificate of Incorporation or these Bylaws, the affirmative vote of the majority (plurality, in the case of the election of directors) of shares of such class or classes or series present in person, by remote communication, if applicable, or represented by proxy at the meeting will be the act of such class or classes or series.

Section 9. Adjournment and Notice of Adjourned Meetings. Any meeting of stockholders, whether annual or special, may be adjourned from time to time either by the chairman of the meeting or by the vote of a majority of the shares present in person, by remote communication, if applicable, or represented by proxy. When a meeting is adjourned to another time or place, if any, notice need not be given of the adjourned meeting if the time and place, if any, thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the corporation may transact any business that might have been transacted at the original meeting pursuant to the Certificate of Incorporation, these Bylaws or applicable law. If the adjournment is for more than 30 days or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting will be given to each stockholder of record entitled to vote at the meeting.

Section 10. Voting Rights. For the purpose of determining those stockholders entitled to vote at any meeting of the stockholders, except as otherwise provided by law, only persons in whose names shares stand on the stock records of the corporation on the record date, as provided in Section 12 of these Bylaws, will be entitled to vote at any meeting of stockholders. Every person entitled to vote or execute consents will have the right to do so either in person, by remote communication, if applicable, or by an agent or agents authorized by a proxy granted in accordance with Delaware law. An agent so appointed need not be a stockholder. No proxy will be voted after three years from its date of creation unless the proxy provides for a longer period.

Section 11. Joint Owners of Stock. If shares or other securities having voting power stand of record in the names of two or more persons, whether fiduciaries, members of a partnership, joint tenants, tenants in common, tenants by the entirety, or otherwise, or if two or more persons have the same fiduciary relationship respecting the same shares, unless the Secretary is given written notice to the contrary and is furnished with a copy of the instrument or order appointing them or creating the relationship where it is so provided, their acts with respect to voting (including giving consent pursuant to Section 13) will have the following effect: (a) if only one votes, his or her act binds all; (b) if more than one votes, the act of the

majority so voting binds all; (c) if more than one votes, but the vote is evenly split on any particular matter, each faction may vote the securities in question proportionally, or may apply to the Delaware Court of Chancery for relief as provided in the DGCL, Section 217(b). If the instrument filed with the Secretary shows that any such tenancy is held in unequal interests, a majority or even-split for the purpose of subsection (c) will be a majority or even-split in interest.

Section 12. List of Stockholders. The Secretary will prepare and make, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at said meeting, arranged in alphabetical order, showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list will be open to the examination of any stockholder, for any purpose germane to the meeting, on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or during ordinary business hours, at the principal place of business of the corporation. In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to stockholders of the corporation. The list will be open to examination of any stockholder during the time of the meeting as provided by law.

Section 13. Action Without Meeting.

(a) Unless otherwise provided in the Certificate of Incorporation, any action required by statute to be taken at any annual or special meeting of the stockholders, or any action that may be taken at any annual or special meeting of the stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, or by electronic transmission setting forth the action so taken, will be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

(b) Every written consent or electronic transmission will bear the date of signature of each stockholder who signs the consent, and no written consent or electronic transmission will be effective to take the corporate action referred to therein unless, within 60 days of the earliest dated consent delivered to the corporation in the manner herein required, written consents or electronic transmissions signed by a sufficient number of stockholders to take action are delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation’s registered office will be by hand or by certified or registered mail, return receipt requested.

(c) Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent will be given to those stockholders who have not consented in writing or by electronic transmission and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of stockholders to take action were delivered to the corporation as provided in Section 228(c) of the DGCL. If the action to which the stockholders consent is such as would have required the filing of a certificate under any section of the DGCL if such action had been voted on by stockholders at a meeting thereof, then the certificate filed under such section must state, in lieu of any statement required by such section concerning any vote of stockholders, that written consent has been given in accordance with Section 228 of the DGCL.

(d) An electronic mail, facsimile or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, will be deemed to be written, signed and dated for the purposes of this Section, provided that any such electronic mail, facsimile or other electronic transmission sets forth or is delivered with information from which the corporation can determine (i) that the electronic mail, facsimile or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder and (ii) the date on which such stockholder or proxyholder or authorized person or persons transmitted such electronic mail, facsimile or electronic transmission. The date on which such electronic mail, facsimile or electronic transmission is transmitted will be deemed to be the date on which such consent was signed. No consent given by electronic mail, facsimile or other electronic transmission will be deemed to have been delivered until such consent is reproduced in paper form and until such paper form is delivered to the corporation by delivery to its registered office in the state of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office will be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by electronic mail, facsimile or other electronic transmission may be otherwise delivered to the principal place of business of the corporation or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the board of directors of the corporation. Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction is a complete reproduction of the entire original writing.

Section 14. Organization.

(a) At every meeting of stockholders, the Chairman of the Board of Directors, or, if a Chairman has not been appointed or is absent, the Chief Executive Officer, or, if the Chief Executive Officer is absent, a chairman of the meeting chosen by a majority in interest of the stockholders entitled to vote, present in person or by proxy, will act as chairman. The Secretary, or, in his or her absence, an Assistant Secretary directed to do so by the Chief Executive Officer, will act as secretary of the meeting.

(b) The Board of Directors is entitled to make such rules or regulations for the conduct of meetings of stockholders as it deems necessary, appropriate or convenient. Subject to such rules and regulations of the Board of Directors, if any, the chairman of the meeting has the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are necessary, appropriate or convenient for the proper conduct of the meeting, including, without limitation, establishing an agenda or order of business for the meeting, rules and procedures for maintaining order at the meeting and the safety of those present, limitations on participation in such meeting to stockholders of record of the corporation and their duly authorized and constituted proxies and such other persons as the chairman permits, restrictions on entry to the meeting after the time fixed for the commencement thereof, limitations on the time allotted to questions or comments by participants and regulation of the opening and closing of the polls for balloting on matters that are to be voted on by ballot. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting will be announced at the meeting. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders will not be required to be held in accordance with rules of parliamentary procedure.

ARTICLE IV

DIRECTORS

Section 15. Number and Term of Office. The authorized number of directors of the corporation will be fixed by the Board of Directors from time to time. Directors need not be stockholders unless so required by the Certificate of Incorporation. If for any cause, the directors have not been elected at an annual meeting, they may be elected as soon thereafter as convenient.

Section 16. Powers. The business and affairs of the corporation will be managed by or under the direction of the Board of Directors, except as otherwise provided by statute or by the Certificate of Incorporation.

Section 17. Term of Directors. Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, directors will be elected at each annual meeting of stockholders to serve until the next annual meeting of stockholders and his or her successor is duly elected and qualified or until his or her death, resignation or removal. No decrease in the number of directors constituting the Board of Directors will shorten the term of any incumbent director.

Section 18. Vacancies. Unless otherwise provided in the Certificate of Incorporation, and subject to the rights of the holders of any series of Preferred Stock, any vacancies on the Board of Directors resulting from death, resignation, disqualification, removal or other causes and any newly created directorships resulting from any increase in the number of directors will, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships will be filled by stockholders, be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum of the Board of Directors, or by a sole remaining director; provided, however, that whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by the provisions of the Certificate of Incorporation, vacancies and newly created directorships of such class or classes or series will, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships will be filled by stockholders, be filled by a majority of the directors elected by such class or classes or series thereof then in office, or by a sole remaining director so elected. Any director elected in accordance with the preceding sentence will hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor has been elected and qualified. A vacancy in the Board of Directors will be deemed to exist under this Bylaw in the case of the death, removal or resignation of any director.

Section 19. Resignation. Any director may resign at any time by delivering his or her notice in writing or by electronic transmission to the Secretary, such resignation to specify whether it will be effective at a particular time, upon receipt by the Secretary or at the pleasure of the Board of Directors. If no such specification is made, it will be deemed effective at the pleasure of the Board of Directors. When one or more directors resigns from the Board of Directors, effective at a future date, a majority of the directors then in office, including those who have so resigned, will have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations become effective, and each Director so chosen will hold office for the unexpired portion of the term of the Director whose place is vacated and until his or her successor has been duly elected and qualified.

Section 20. Removal. Subject to any limitations imposed by applicable law, the Board of Directors or any director may be removed from office at any time (i) with cause by the affirmative vote of the holders of 66 2/3% of the voting power of all then-outstanding shares of capital stock of the corporation entitled to vote generally at an election of directors or (ii) without cause by the affirmative vote of the holders of a majority of the voting power of all then-outstanding shares of capital stock of the corporation, entitled to elect such director.

Section 21. Meetings.

(a) Regular Meetings. Unless otherwise restricted by the Certificate of Incorporation, regular meetings of the Board of Directors may be held at any time or date and at any place within or without the State of Delaware that has been designated by the Board of Directors and publicized among all directors, either orally or in writing, including a voice-messaging system or other system designated to record and communicate messages, facsimile, or by electronic mail or other electronic means. No further notice will be required for a regular meeting of the Board of Directors.

(b) Special Meetings. Unless otherwise restricted by the Certificate of Incorporation, special meetings of the Board of Directors may be held at any time and place within or without the State of Delaware whenever called by the Chairman of the Board, the Chief Executive Officer (if a director), the President (if a director) or any director.

(c) Meetings by Electronic Communications Equipment. Any member of the Board of Directors, or of any committee thereof, may participate in a meeting by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting by such means constitutes presence in person at such meeting.

(d) Notice of Special Meetings. Notice of the time and place of all special meetings of the Board of Directors will be orally or in writing, by telephone, including a voice messaging system or other system or technology designed to record and communicate messages, facsimile, telegraph or telex, or by electronic mail or other electronic means, during normal business hours, at least 24 hours before the date and time of the meeting. If notice is sent by US mail, it will be sent by first class mail, postage prepaid at least three days before the date of the meeting. Notice of any meeting may be waived in writing or by electronic transmission at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

(e) Waiver of Notice. The transaction of all business at any meeting of the Board of Directors, or any committee thereof, however called or noticed, or wherever held, will be as valid as though had at a meeting duly held after regular call and notice, if a quorum be present and if, either before or after the meeting, each of the directors not present who did not receive notice signs a written waiver of notice or waives notice by electronic transmission. All such waivers will be filed with the corporate records or made a part of the minutes of the meeting.

Section 22. Quorum and Voting.

(a) Unless the Certificate of Incorporation requires a greater number, a quorum of the Board of Directors will consist of a majority of the total number of directors then serving (which majority must include at least two Preferred Directors (as defined in the Certificate of Incorporation)); *provided*, *however*, that such number will never be less than 1/3 of the total number of directors except that when one director is authorized, then one director will constitute a quorum. If a quorum is not obtained at any meeting, the meeting shall be adjourned and may be reconvened (provided that only matters contained in the original notice delivered pursuant to Section 21 shall be transacted upon at such reconvened meeting) upon not less than five business days' notice to the directors, at which reconvened meeting the quorum shall be at least a majority of the total number of directors then serving. At any meeting, whether a quorum be present or otherwise, a majority of the directors present may adjourn from time to time until the time fixed for the next regular meeting of the Board of Directors, without notice other than by announcement at the meeting. If the Certificate of Incorporation provides that one or more directors will have more or less than one vote per director on any matter, every reference in this Section to a majority or other proportion of the directors will refer to a majority or other proportion of the votes of the directors.

(b) At each meeting of the Board of Directors at which a quorum is present, all questions and business will be determined by the affirmative vote of a majority of the directors present, unless a different vote be required by law, the Certificate of Incorporation or these Bylaws.

Section 23. Action Without Meeting. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent in writing or by electronic transmission, and such writing or writings or transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing will be in paper form if the minutes are maintained in paper form and will be in electronic form if the minutes are maintained in electronic form.

Section 24. Fees and Compensation. Directors will be entitled to such compensation for their services as may be approved by the Board of Directors, including, if so approved, by resolution of the Board of Directors, a fixed sum and expenses of attendance, if any, for attendance at each regular or special meeting of the Board of Directors and at any meeting of a committee of the Board of Directors. Nothing herein contained is to be construed to preclude any director from serving the corporation in any other capacity as an officer, agent, employee, or otherwise and receiving compensation therefor.

Section 25. Committees.

(a) Executive Committee. The Board of Directors may appoint an Executive Committee to consist of one or more members of the Board of Directors. The Executive Committee, to the extent permitted by law and provided in the resolution of the Board of Directors, will have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers that may require it; but no such committee will have the power or authority in reference to (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval, or (ii) adopting, amending or repealing any bylaw of the corporation.

(b) Other Committees. The Board of Directors may, from time to time, appoint such other committees as may be permitted by law. Such other committees appointed by the Board of Directors will consist of one or more members of the Board of Directors and will have such powers and perform such duties as may be prescribed by the resolution or resolutions creating such committees, but in no event will any such committee have the powers denied to the Executive Committee in these Bylaws.

(c) Term. The Board of Directors, subject to any requirements of any outstanding series of Preferred Stock and the provisions of paragraphs (a) or (b) of this Section may at any time increase or decrease the number of members of a committee or terminate the existence of a committee. The membership of a committee member will terminate on the date of his or her death or voluntary resignation from the committee or from the Board of Directors. The Board of Directors may at any time for any reason remove any individual committee member and the Board of Directors may fill any committee vacancy created by death, resignation, removal or increase in the number of members of the committee. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee, and, in addition, in the absence or disqualification of any member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

(d) Meetings. Unless the Board of Directors otherwise provide, regular meetings of the Executive Committee or any other committee appointed pursuant to this Section will be held at such times and places as are determined by the Board of Directors, or by any such committee, and when notice thereof has been given to each member of such committee, no further notice of such regular meetings need be given thereafter. Special meetings of any such committee may be held at any place that has been determined from time to time by such committee, and may be called by any director who is a member of such committee, upon notice to the members of such committee of the time and place of such special meeting given in the manner provided for the giving of notice to members of the Board of Directors of the time and place of special meetings of the Board of Directors. Notice of any special meeting of any committee may be waived in writing at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends such special meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Unless otherwise provided by the Board of Directors in the resolutions authorizing the creation of the committee, a majority of the authorized number of members of any such committee will constitute a quorum for the transaction of business, and the act of a majority of those present at any meeting at which a quorum is present will be the act of such committee.

Section 26. Organization. At every meeting of the directors, the Chairman of the Board of Directors, or, if a Chairman has not been appointed or is absent, the Chief Executive Officer (if a director), or if the Chief Executive Officer is not a director or is absent, the President (if a director), or if the President is not a director or is absent, the most senior Vice President (if a director) or, in the absence of any such person, a chairman of the meeting chosen by a majority of the directors present, will preside over the meeting. The Secretary, or in his or her absence, any Assistant Secretary directed to do so by the Chief Executive Officer or President, will act as secretary of the meeting.

ARTICLE V

OFFICERS

Section 27. Officers Designated. The officers of the corporation will include, if and when designated by the Board of Directors, the Chief Executive Officer, the President, one or more Vice Presidents, the Secretary, the Chief Financial Officer, the Treasurer and the Controller, all of whom will be elected at the annual organizational meeting of the Board of Directors. The Board of Directors may also appoint one or more Assistant Secretaries, Assistant Treasurers, Assistant Controllers and such other officers and agents with such powers and duties as it deems necessary. The Board of Directors may assign such additional titles to one or more of the officers as it deems appropriate. Any one person may hold any number of offices of the corporation at any one time unless specifically prohibited therefrom by law. The salaries and other compensation of the officers of the corporation will be fixed by or in the manner designated by the Board of Directors.

Section 28. Tenure and Duties of Officers.

(a) General. All officers will hold office at the pleasure of the Board of Directors and until their successors have been duly elected and qualified, unless sooner removed. Any officer elected or appointed by the Board of Directors may be removed at any time by the Board of Directors. If the office of any officer becomes vacant for any reason, the vacancy may be filled by the Board of Directors, or by the Chief Executive Officer or other officer if so authorized by the Board of Directors.

(b) Duties of Chairman of the Board of Directors. The Chairman of the Board of Directors, when present, will preside at all meetings of the stockholders and the Board of Directors. The Chairman of the Board of Directors will perform other duties commonly incident to the office and will also perform such other duties and have such other powers as the Board of Directors designates from time to time. If there is no Chief Executive Officer and no President, then the Chairman of the Board of Directors will also serve as the Chief Executive Officer of the corporation and will have the powers and duties prescribed in paragraph (c) of this Section.

(c) Duties of Chief Executive Officer. The Chief Executive Officer will preside at all meetings of the stockholders and (if a director) at all meetings of the Board of Directors, unless the Chairman of the Board of Directors has been appointed and is present. The Chief Executive Officer will be the chief executive officer of the corporation and will, subject to the control of the Board of Directors, have general supervision, direction and control of the business and officers of the corporation. The Chief Executive Officer will perform other duties commonly incident to the office and will also perform such other duties and have such other powers as the Board of Directors designates from time to time.

(d) Duties of President. In the absence or disability of the Chief Executive Officer or if the office of Chief Executive Officer is vacant, the President will preside at all meetings of the stockholders and (if a director) at all meetings of the Board of Directors, unless the Chairman of the Board of Directors has been appointed and is present. If the office of Chief Executive Officer is vacant, the President will be the chief executive officer of the corporation and will, subject to the control of the Board of Directors, have general supervision, direction and control of the business and officers of the corporation. The President will perform other duties commonly incident to the office and will also perform such other duties and have such other powers as the Board of Directors designates from time to time.

(e) Duties of Vice Presidents. The Vice Presidents may assume and perform the duties of the President in the absence or disability of the President or whenever the office of President is vacant. The Vice Presidents will perform other duties commonly incident to their office and will also perform such other duties and have such other powers as the Board of Directors or the President designates from time to time.

(f) Duties of Secretary. The Secretary will attend all meetings of the stockholders and of the Board of Directors and will record all acts and proceedings thereof in the minute book of the corporation. The Secretary will give notice in conformity with these Bylaws of all meetings of the stockholders and of all meetings of the Board of Directors and any committee thereof requiring notice. The Secretary will perform all other duties provided for in these Bylaws and other duties commonly incident to the office and will also perform such other duties and have such other powers as the Board of Directors will designate from time to time. The Chief Executive Officer may direct any Assistant Secretary to assume and perform the duties of the Secretary in the absence or disability of the Secretary, and each Assistant Secretary will perform other duties commonly incident to the office and will also perform such other duties and have such other powers as the Board of Directors or the Chief Executive Officer designates from time to time.

(g) Duties of Chief Financial Officer. The Chief Financial Officer will keep or cause to be kept the books of account of the corporation in a thorough and proper manner and will render statements of the financial affairs of the corporation in such form and as often as required by the Board of Directors or the Chief Executive Officer. The Chief Financial Officer, subject to the order of the Board of Directors, will have the custody of all funds and securities of the corporation. The Chief Financial Officer will perform other duties commonly incident to his or her office and will also perform such other duties and have such other powers as the Board of Directors or the Chief Executive Officer designate from time to time. The Chief Executive Officer may direct the Treasurer or any Assistant Treasurer, or the Controller or any Assistant Controller to assume and perform the duties of the Chief Financial Officer in the absence or disability of the Chief Financial Officer, and each Treasurer and Assistant Treasurer and each Controller and Assistant Controller will perform other duties commonly incident to the office and will also perform such other duties and have such other powers as the Board of Directors or the Chief Executive Officer designates from time to time.

Section 29. Delegation of Authority. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

Section 30. Resignations. Any officer may resign at any time by giving notice in writing or by electronic transmission notice to the Board of Directors or to the Chief Executive Officer or to the President or to the Secretary. Any such resignation will be effective when received by the person or persons to whom such notice is given, unless a later time is specified therein, in which event the resignation will become effective at such later time. Unless otherwise specified in such notice, the acceptance of any such resignation will not be necessary to make it effective. Any resignation will be without prejudice to the rights, if any, of the corporation under any contract with the resigning officer.

Section 31. Removal. Any officer may be removed from office at any time, either with or without cause, by the affirmative vote of a majority of the directors in office at the time, or by the unanimous written or electronic consent of the directors in office at the time, or by any committee or superior officers upon whom such power of removal may have been conferred by the Board of Directors.

ARTICLE VI

EXECUTION OF CORPORATE INSTRUMENTS AND VOTING OF SECURITIES OWNED BY THE CORPORATION

Section 32. Execution of Corporate Instruments. The Board of Directors may, in its discretion, determine the method and designate the signatory officer or officers, or other person or persons, to execute on behalf of the corporation any corporate instrument or document, or to sign on behalf of the corporation the corporate name, or to enter into contracts on behalf of the corporation, except as otherwise provided by law or these Bylaws, and such execution or signature will be binding upon the corporation. All checks and drafts drawn on banks or other depositaries of funds to the credit of the corporation or on special accounts of the corporation will be signed by such person or persons as the Board of Directors authorizes so to do. Unless authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee will have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

Section 33. Voting of Securities Owned by the Corporation. All stock and other securities of other corporations owned or held by the corporation for itself, or for other parties in any capacity, will be voted, and all proxies with respect thereto will be executed, by the person authorized so to do by resolution of the Board of Directors, or, in the absence of such authorization, by the Chairman of the Board of Directors, the Chief Executive Officer, the President, or any Vice President.

ARTICLE VII

SHARES OF STOCK

Section 34. Form and Execution of Certificates. The shares of the corporation will be represented by certificates, or will be uncertificated. Certificates for the shares of stock, if any, of the corporation will be in such form as is consistent with the Certificate of Incorporation and applicable law. Every holder of shares of stock in the corporation represented by certificate will be entitled to have a certificate signed by or in the name of the corporation by any two authorized officers, including but not limited to the Chief Executive Officer, the President, the Chief Financial Officer, any Vice President, the

Treasurer or Assistant Treasurer or the Secretary or Assistant Secretary, certifying the number of shares owned by him or her in the corporation. Any or all of the signatures on the certificate may be facsimiles. In case any officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent, or registrar before such certificate is issued, it may be issued with the same effect as if he or she were such officer, transfer agent, or registrar at the date of issue.

Section 35. Lost Certificates. A new certificate or certificates will be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost, stolen, or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen, or destroyed. The corporation may require, as a condition precedent to the issuance of a new certificate or certificates, the owner of such lost, stolen, or destroyed certificate or certificates, or the owner's legal representative, to agree to indemnify the corporation in such manner as it requires or to give the corporation a surety bond in such form and amount as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen, or destroyed.

Section 36. Restrictions on Transfer.

(a) No holder of any of the shares of stock of the corporation may sell, transfer, assign, pledge, or otherwise dispose of or encumber any of the shares of stock of the corporation or any right or interest therein, whether voluntarily or by operation of law, or by gift or otherwise (each, a "***Transfer***") without the prior written consent of the corporation, upon duly authorized action of its Board of Directors. The corporation may withhold consent for any legitimate corporate purpose, as determined by the Board of Directors. Examples of the basis for the corporation to withhold its consent include, without limitation, (i) if such Transfer to individuals, companies or any other form of entity identified by the corporation as a potential competitor or considered by the corporation to be unfriendly; or (ii) if such Transfer increases the risk of the corporation having a class of security held of record by 2,000 or more persons, or 500 or more persons who are not accredited investors (as such term is defined by the SEC), as described in Section 12(g) of the 1934 Act and any related regulations, or otherwise requiring the corporation to register any class of securities under the 1934 Act; or (iii) if such Transfer would result in the loss of any federal or state securities law exemption relied upon by the corporation in connection with the initial issuance of such shares or the issuance of any other securities; or (iv) if such Transfer is facilitated in any manner by any public posting, message board, trading portal, internet site, or similar method of communication, including without limitation any trading portal or internet site intended to facilitate secondary transfers of securities; or (v) if such Transfer is to be effected in a brokered transaction; or (vi) if such Transfer represents a Transfer of less than all of the shares then held by the stockholder and its affiliates or is to be made to more than a single transferee.

(b) If a stockholder desires to Transfer any shares, then the stockholder will first give written notice to the corporation. The notice must name the proposed transferee and state the number of shares to be transferred, the proposed consideration, and all other terms and conditions of the proposed transfer. Any shares proposed to be transferred to which Transfer the corporation has consented pursuant to paragraph (a) of this Section will first be subject to the corporation's right of first refusal located in Section 37 of these Bylaws.

(c) At the option of the corporation, the stockholder will be obligated to pay to the corporation a reasonable transfer fee related to the costs and time of the corporation and its legal and other advisors related to any proposed Transfer.

(d) Any Transfer, or purported Transfer, of shares not made in strict compliance with this Section will be null and void, will not be recorded on the books of the corporation and will not be recognized by the corporation.

(e) The foregoing restriction on Transfer will not apply to the Transfer of shares of Preferred Stock or to the Transfer of any shares of Common Stock issued upon the conversion of any shares of Preferred Stock.

(f) The foregoing restriction on Transfer will terminate upon the date securities of the corporation are first offered to the public pursuant to a registration statement filed with, and declared effective by, the SEC under the Securities Act of 1933, as amended (the "***1933 Act***").

(g) The certificates representing shares of Common Stock of the corporation will bear on their face the following legend so long as the foregoing Transfer restrictions are in effect:

> "THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A TRANSFER RESTRICTION, AS PROVIDED IN THE BYLAWS OF THE CORPORATION."

Section 37. Right of First Refusal. No stockholder will Transfer any of the shares of stock of the corporation, except by a Transfer that meets the requirements set forth in this Section 37, in addition to any other restrictions or requirements set forth under applicable law or these Bylaws:

(a) If the stockholder desires to Transfer any of his or her shares of stock, then the stockholder must first give written notice thereof to the corporation. The notice must name the proposed transferee and state the number of shares to be transferred, the proposed consideration, and all other terms and conditions of the proposed transfer.

(b) For 30 days following receipt of such notice, the corporation has the option to purchase up to all the shares specified in the notice at the price and upon the terms set forth in such notice; *provided, however*, that, with the consent of the stockholder, the corporation has the option to purchase a lesser portion of the shares specified in said notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other Transfer in which the proposed transferee is not paying the full price for the shares, and that is not otherwise exempted from the provisions of this Section, the price will be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the corporation elects to purchase all of the shares or, with consent of the stockholder, a lesser portion of the shares, it will give written notice to the transferring stockholder of its election and settlement for said shares will be made as provided below in paragraph (d) of this Section.

(c) The corporation may assign its rights hereunder.

(d) In the event the corporation and/or its assignee(s) elect to acquire any of the shares of the transferring stockholder as specified in said transferring stockholder's notice, the Secretary of the corporation will so notify the transferring stockholder and settlement thereof will be made in cash within 30 days after the Secretary of the corporation receives said transferring stockholder's notice; provided that if the terms of payment set forth in said transferring stockholder's notice were other than cash against delivery, the corporation and/or its assignee(s) will pay for said shares on the same terms and conditions set forth in said transferring stockholder's notice.

(e) In the event the corporation and/or its assignees(s) do not elect to acquire all of the shares specified in the transferring stockholder's notice, said transferring stockholder may, subject to the corporation's approval and all other restrictions on Transfer located in Section 36 of these Bylaws, within the 60-day period following the expiration or waiver of the option rights granted to the corporation and/or its assignees(s) herein, Transfer the shares specified in said transferring stockholder's notice that were not acquired by the corporation and/or its assignees(s) as specified in said transferring stockholder's notice. All shares so sold by said transferring stockholder will continue to be subject to the provisions of this Bylaw in the same manner as before said Transfer.

(f) Anything to the contrary contained herein notwithstanding, the following transactions are exempt from the right of first refusal in paragraph (a) of this Section:

(1) A stockholder's Transfer of any or all shares held either during such stockholder's lifetime or on death by will or intestacy to such stockholder's immediate family or to any custodian or trustee for the account of such stockholder or such stockholder's immediate family or to any limited partnership of which the stockholder, members of such stockholder's immediate family or any trust for the account of such stockholder or such stockholder's immediate family will be the general or limited partner(s) of such partnership. "Immediate family" as used herein means spouse, lineal descendant, father, mother, brother, or sister of the stockholder making such Transfer;

(2) A stockholder's bona fide pledge or mortgage of any shares with a commercial lending institution, provided that any subsequent Transfer of said shares by said institution will be conducted in the manner set forth in this Bylaw;

(3) A stockholder's Transfer of any or all of such stockholder's shares to the corporation or to any other stockholder of the corporation;

(4) A stockholder's Transfer of any or all of such stockholder's shares to a person who, at the time of such Transfer, is an officer or director of the corporation;

(5) A corporate stockholder's Transfer of any or all of its shares pursuant to and in accordance with the terms of any merger, consolidation, reclassification of shares or capital reorganization of the corporate stockholder, or pursuant to a sale of all or substantially all of the stock or assets of a corporate stockholder;

(6) A stockholder's Transfer of shares of Preferred Stock of the corporation (or any shares of Common Stock issued upon conversion thereof);

(7) A corporate stockholder's Transfer of any or all of its shares to any or all of its stockholders; or

(8) A Transfer by a stockholder that is a limited or general partnership to any or all of its partners or former partners in accordance with partnership interests.

In any such case, the transferee, assignee, or other recipient will receive and hold such stock subject to the provisions of this Section and any other restrictions set forth in these Bylaws, and there will be no further Transfer of such stock except in accord with this Section and the other provisions of these Bylaws.

(g) The provisions of this Bylaw may be waived with respect to any Transfer either by the corporation, upon duly authorized action of its Board of Directors, or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the corporation (excluding the votes represented by those shares to be transferred by the transferring stockholder). This Bylaw may be amended or repealed either by a duly authorized action of the Board of Directors or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the corporation.

(h) Any Transfer, or purported Transfer, of securities of the corporation will be null and void unless the terms, conditions, and provisions of this Bylaw are strictly observed and followed.

(i) The foregoing right of first refusal will terminate upon the date securities of the corporation are first offered to the public pursuant to a registration statement filed with, and declared effective by, the SEC under the Securities Act of 1933, as amended.

(j) The certificates representing shares of Common Stock of the corporation that are subject to the right of first refusal in paragraph (a) of this Section will bear on their face the following legend so long as the foregoing right of first refusal remains in effect:

> "THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A RIGHT OF FIRST REFUSAL OPTION IN FAVOR OF THE CORPORATION AND/OR ITS ASSIGNEE(S), AS PROVIDED IN THE BYLAWS OF THE CORPORATION."

(k) To the extent this Section conflicts with any written agreements between the corporation and the stockholder attempting to Transfer shares, such agreement will control.

Section 38. Fixing Record Dates.

(a) In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix, in advance, a record date, which record date will not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date will, subject to applicable law, not be more than 60 nor less than 10 days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders will be at the close of business on the day immediately preceding the day on which notice is given, or if notice is waived, at the close of business on the day immediately preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders will apply to any adjournment of the meeting; *provided, however*, that the Board of Directors may fix a new record date for the adjourned meeting.

(b) In order that the corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the Board of Directors may fix a record date, which record date will not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which date will not be more than 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. Any stockholder of record seeking to have the stockholders authorize or take corporate action by written consent will, by written notice to the Secretary, request the Board of Directors to fix a record date. The Board of Directors will promptly, but in all events within 10 days after the date on which such a request is received, adopt a resolution fixing the record date. If no record date has been fixed by the Board of Directors within 10 days of the date on which such a request is received, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is required by applicable law, will be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded.

Delivery made to the corporation's registered office will be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the Board of Directors and prior action by the Board of Directors is required by law, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting will be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

(c) In order that the corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which record date will not precede the date upon which the resolution fixing the record date is adopted, and which record date will be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose will be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 39. Registered Stockholders. The corporation is entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and is not bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person whether or not it has express or other notice thereof, except as otherwise provided by the laws of Delaware.

ARTICLE VIII

OTHER SECURITIES OF THE CORPORATION

Section 40. Execution of Other Securities. All bonds, debentures and other corporate securities of the corporation, other than stock certificates (covered in Section 34 of these Bylaws), may be signed by the Chairman of the Board of Directors, the Chief Executive Officer, the President or any Vice President, or such other person as may be authorized by the Board of Directors, and the corporate seal impressed thereon or a facsimile of such seal imprinted thereon and attested by the signature of the Secretary or an Assistant Secretary, or the Chief Financial Officer or Treasurer or an Assistant Treasurer; *provided*, *however*, that where any such bond, debenture or other corporate security is authenticated by the manual signature, or where permissible facsimile signature, of a trustee under an indenture pursuant to which such bond, debenture or other corporate security is issued, the signatures of the persons signing and attesting the corporate seal on such bond, debenture or other corporate security may be the imprinted facsimile of the signatures of such persons. Interest coupons appertaining to any such bond, debenture or other corporate security, authenticated by a trustee as aforesaid, will be signed by the Treasurer or an Assistant Treasurer of the corporation or such other person as may be authorized by the Board of Directors, or bear imprinted thereon the facsimile signature of such person. In case any officer who has signed or attested any bond, debenture or other corporate security, or whose facsimile signature appears thereon or on any such interest coupon, has ceased to be such officer before the bond, debenture or other corporate security so signed or attested has been delivered, such bond, debenture or other corporate security nevertheless may be adopted by the corporation and issued and delivered as though the person who signed the same or whose facsimile signature has been used thereon had not ceased to be such officer of the corporation.

ARTICLE IX

DIVIDENDS

Section 41. Declaration of Dividends. Dividends upon the capital stock of the corporation, subject to the provisions of the Certificate of Incorporation and applicable law, if any, may be declared by the Board of Directors pursuant to law at any regular or special meeting. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the Certificate of Incorporation and applicable law.

Section 42. Dividend Reserve. Before payment of any dividend, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the Board of Directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purpose as the Board of Directors thinks conducive to the interests of the corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

ARTICLE X

FISCAL YEAR

Section 43. Fiscal Year. The fiscal year of the corporation will be fixed by resolution of the Board of Directors.

ARTICLE XI

INDEMNIFICATION

Section 44. Indemnification of Directors, Executive Officers, Other Officers, Employees and Other Agents.

(a) Directors and Executive Officers. The corporation will indemnify its directors and executive officers (for the purposes of this Article, "executive officers" has the meaning defined in Rule 3b-7 promulgated under the 1934 Act) to the fullest extent not prohibited by the DGCL or any other applicable law; *provided, however*, that the corporation may modify the extent of such indemnification by individual contracts with its directors and executive officers; and, *provided, further*, that the corporation will not be required to indemnify any director or executive officer in connection with any proceeding (or part thereof) initiated by such person unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized by the Board of Directors of the corporation, (iii) such indemnification is provided by the corporation, in its sole discretion, pursuant to the powers vested in the corporation under the DGCL or any other applicable law or (iv) such indemnification is required to be made under paragraph (d) of this Section.

(b) Other Officers, Employees and Other Agents. The corporation will have power to indemnify its other officers, employees and other agents as set forth in the DGCL or any other applicable law. The Board of Directors will have the power to delegate the determination of whether indemnification will be given to any such person except executive officers to such officers or other persons as the Board of Directors determines.

(c) Expenses. The corporation will advance to any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or executive officer of the corporation, or is or was serving at the request of the corporation as a director or executive officer of another corporation, partnership, joint venture, trust or other enterprise, prior to the final disposition of the proceeding, promptly following request therefor, all expenses incurred by any director or executive officer in connection with such proceeding, *provided, however*, that, if the DGCL requires, an advancement of expenses incurred by a director or officer in his or her capacity as a director or officer (and not in any other capacity in which service

was or is rendered by such indemnitee, including, without limitation, service to an employee benefit plan) will be made only upon delivery to the corporation of an undertaking, by or on behalf of such indemnitee, to repay all amounts so advanced if it is ultimately determined by final judicial decision from which there is no further right to appeal that such indemnitee is not entitled to be indemnified for such expenses under this Section or otherwise.

Notwithstanding the foregoing, unless otherwise determined pursuant to paragraph (e) of this Section, no advance will be made by the corporation to an executive officer of the corporation (except by reason of the fact that such executive officer is or was a director of the corporation, in which event this paragraph will not apply) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, if a determination is reasonably and promptly made (i) by a majority vote of a quorum consisting of directors who were not parties to the proceeding, even if not a quorum, or (ii) by a committee of such directors designated by a majority of such directors, even though less than a quorum, or (iii) if there are no such directors, or such directors so direct, by independent legal counsel in a written opinion, that the facts known to the decision-making party at the time such determination is made demonstrate clearly and convincingly that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the corporation.

(d) Enforcement. Without the necessity of entering into an express contract, all rights to indemnification and advances to directors and executive officers under this Section will be deemed to be contractual rights and be effective to the same extent and as if provided for in a contract between the corporation and the director or executive officer. Any right to indemnification or advances granted by this Section to a director or executive officer will be enforceable by or on behalf of the person holding such right in any court of competent jurisdiction if (i) the claim for indemnification or advances is denied, in whole or in part, or (ii) no disposition of such claim is made within 90 days of request therefor. The claimant in such enforcement action, if successful in whole or in part, will be entitled to be paid also the expense of prosecuting the claim. In connection with any claim for indemnification, the corporation will be entitled to raise as a defense to any such action that the claimant has not met the standards of conduct that make it permissible under the DGCL or any other applicable law for the corporation to indemnify the claimant for the amount claimed. In connection with any claim by an executive officer of the corporation (except in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such executive officer is or was a director of the corporation) for advances, the corporation will be entitled to raise as a defense as to any such action clear and convincing evidence that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the corporation, or with respect to any criminal action or proceeding that such person acted without reasonable cause to believe that his or her conduct was lawful. Neither the failure of the corporation (including its Board of Directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he has met the applicable standard of conduct set forth in the DGCL or any other applicable law, nor an actual determination by the corporation (including its Board of Directors, independent legal counsel or its stockholders) that the claimant has not met such applicable standard of conduct, will be a defense to the action or create a presumption that claimant has not met the applicable standard of conduct.

(e) Non-Exclusivity of Rights. The rights conferred on any person by this Section are not exclusive of any other right that such person may have or hereafter acquire under any applicable statute, provision of the Certificate of Incorporation, Bylaws, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in his or her official capacity and as to action in another capacity while holding office. The corporation is specifically authorized to enter into individual contracts with any or all of its directors, officers, employees or agents respecting indemnification and advances, to the fullest extent not prohibited by the DGCL or any other applicable law.

(f) Survival of Rights. The rights conferred on any person by this Section will continue as to a person who has ceased to be a director or executive officer and will inure to the benefit of the heirs, executors and administrators of such a person.

(g) Insurance. To the fullest extent permitted by the DGCL, or any other applicable law, the corporation, upon approval by the Board of Directors, may purchase insurance on behalf of any person required or permitted to be indemnified pursuant to this Section.

(h) Amendments. Any repeal or modification of this Section is only prospective and does not affect the rights under this Bylaw in effect at the time of the alleged occurrence of any action or omission to act that is the cause of any proceeding against any agent of the corporation.

(i) Saving Clause. If this Section or any portion hereof is invalidated on any ground by any court of competent jurisdiction, then the corporation will nevertheless indemnify each director and executive officer to the full extent not prohibited by any applicable portion of this Bylaw that has not been invalidated, or by any other applicable law. If this Section is invalid due to the application of the indemnification provisions of another jurisdiction, then the corporation will indemnify each director and executive officer to the full extent under applicable law.

(j) Certain Definitions. For the purposes of this Section, the following definitions apply:

(1) The term "proceeding" is to be broadly construed and includes, without limitation, the investigation, preparation, prosecution, defense, settlement, arbitration and appeal of, and the giving of testimony in, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative.

(2) The term "expenses" is to be broadly construed and includes, without limitation, court costs, attorneys' fees, witness fees, fines, amounts paid in settlement or judgment and any other costs and expenses of any nature or kind incurred in connection with any proceeding.

(3) The term the "corporation" includes, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger that, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, stands in the same position under the provisions of this Section with respect to the resulting or surviving corporation as he would have with respect to such constituent corporation if its separate existence had continued.

(4) References to a "director," "executive officer," "officer," "employee," or "agent" of the corporation include, without limitation, situations where such person is serving at the request of the corporation as, respectively, a director, executive officer, officer, employee, trustee or agent of another corporation, partnership, joint venture, trust or other enterprise.

(5) References to "other enterprises" include employee benefit plans; references to "fines" include any excise taxes assessed on a person with respect to an employee benefit plan; and references to "serving at the request of the corporation" include any service as a director, officer, employee or agent of the corporation that imposes duties on, or involves services by, such director, officer, employee, or agent with respect to an employee benefit plan, its participants, or beneficiaries; and a person who acted in good faith and in a manner he reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan is deemed to have acted in a manner "not opposed to the best interests of the corporation" as referred to in this Section.

ARTICLE XII

NOTICES

Section 45. Notices.

(a) Notice to Stockholders. Written notice to stockholders of stockholder meetings will be given as provided in Section 7 of these Bylaws. Without limiting the manner by which notice may otherwise be given effectively to stockholders under any agreement or contract with such stockholder, and except as otherwise required by law, written notice to stockholders for purposes other than stockholder meetings may be sent by United States mail or nationally recognized overnight courier, or by facsimile, telegraph or telex or by electronic mail or other electronic means.

(b) Notice to Directors. Any notice required to be given to any director may be given by the method stated in paragraph (a) of this Section, or as provided for in Section 21 of these Bylaws. If such notice is not delivered personally, it will be sent to such address as such director has filed in writing with the Secretary, or, in the absence of such filing, to the last known post office address of such director.

(c) Affidavit of Mailing. An affidavit of mailing, executed by a duly authorized and competent employee of the corporation or its transfer agent appointed with respect to the class of stock affected or other agent, specifying the name and address or the names and addresses of the stockholder or stockholders, or director or directors, to whom any such notice or notices was or were given, and the time and method of giving the same, will in the absence of fraud, be prima facie evidence of the facts therein contained.

(d) Methods of Notice. It is not necessary that the same method of giving notice be employed in respect of all recipients of notice, but one permissible method may be employed in respect of any one or more, and any other permissible method or methods may be employed in respect of any other or others.

(e) Notice to Person with Whom Communication Is Unlawful. Whenever notice is required to be given, under any provision of law or of the Certificate of Incorporation or Bylaws of the corporation, to any person with whom communication is unlawful, the giving of such notice to such person is not required and there is no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting that is taken or held without notice to any such person with whom communication is unlawful has the same force and effect as if such notice had been duly given. In the event that the action taken by the corporation is such as to require the filing of a certificate under any provision of the DGCL, the certificate will state, if such is the fact and if notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

(f) Notice to Stockholders Sharing an Address. Except as otherwise prohibited under DGCL, any notice given under the provisions of DGCL, the Certificate of Incorporation or the Bylaws will be effective if given by a single written notice to stockholders who share an address if consented to by the stockholders at that address to whom such notice is given. Such consent is deemed to have been given if such stockholder fails to object in writing to the corporation within 60 days of having been given notice by the corporation of its intention to send the single notice. Any consent is revocable by the stockholder by written notice to the corporation.

ARTICLE XIII

AMENDMENTS

Section 46. Amendments. The Board of Directors is expressly empowered to adopt, amend or repeal Bylaws of the corporation. The stockholders also have power to adopt, amend or repeal the Bylaws of the corporation; *provided, however*, that, in addition to any vote of the holders of any class or series of stock of the corporation required by law or by the Certificate of Incorporation, such action by stockholders requires the affirmative vote of the holders of a majority of the voting power of all of the then-outstanding shares of the capital stock of the corporation entitled to vote generally in the election of directors, voting together as a single class.

ARTICLE XIV

LOANS TO OFFICERS

Section 47. Loans to Officers. Except as otherwise prohibited under applicable law, the corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the corporation or of its subsidiaries, including any officer or employee who is a Director of the corporation or its subsidiaries, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the corporation. The loan, guarantee or other assistance may be with or without interest and may be unsecured, or secured in such manner as the Board of Directors approves, including, without limitation, a pledge of shares of stock of the corporation. Nothing in these Bylaws is deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

ARTICLE XV

MISCELLANEOUS

Section 48. Forum. Unless the corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the corporation; (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the corporation to the corporation or the corporation's stockholders; (iii) any action asserting a claim against the corporation or any director or officer or other employee of the corporation arising pursuant to any provision of the DGCL, the certificate of incorporation or the Bylaws of the corporation; or (iv) any action asserting a claim against the corporation or any director or officer or other employee of the corporation governed by the internal affairs doctrine.

TURNSTONE BIOLOGICS CORP
CERTIFICATE OF SECRETARY

I hereby certify that:

I am the duly elected and acting Secretary of **Turnstone Biologics Corp.**, a Delaware corporation (the "***Company***"); and

Attached hereto is a complete and accurate copy of the Bylaws of the Company as duly adopted by the Board of Directors by Unanimous Written Consent dated December 14, 2018 and said Bylaws are presently in effect.

This Certificate of Secretary may be executed via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act or other applicable law) or other transmission method and will be deemed to have been duly and validly delivered and be valid and effective for all purposes. Signed on December 14, 2018.

/s/ Maura Campbell
Maura Campbell
Secretary

TURNSTONE BIOLOGICS INC.

AMENDED AND RESTATED EQUITY INCENTIVE PLAN

October 1, 2016

TURNSTONE BIOLOGICS INC.
(the "Company")

EQUITY INCENTIVE PLAN

PREAMBLE

A. The Company adopted an Equity Incentive Plan on October 2, 2015 (the "**Original Plan**").

B. The Company wishes to amend and restate the Original Plan in the manner contemplated herein.

ARTICLE 1
PURPOSE

1.1 Purpose of this Plan

The purpose of this Plan is to assist the Company in attracting, retaining and motivating key employees, officers, directors and consultants of the Company or of a Related Entity who will contribute to the Company's long-term success by providing them incentives that align their interests with those of the shareholders of the Company.

1.2 Available Awards

Awards that may be granted under this Plan include: (a) Options; (b) ISOs; and (c) Restricted Awards.

1.3 No Changes to Outstanding Awards

This Plan shall have no effect on any outstanding Awards granted under the Original Plan, which shall continue in effect in accordance with their terms and conditions and the terms and conditions of the Original Plan.

ARTICLE 2
INTERPRETATION

2.1 Definitions

When used herein, unless the context otherwise requires, the following terms have the following meanings, respectively:

"**Award**" means any right granted under this Plan, including (a) Options; (b) ISOs; and (c) Restricted Awards;

"**Award Agreement**" means a written agreement, contract, certificate or other instrument or document evidencing the terms and conditions of an individual Award granted under this Plan which may, in the discretion of the Company, be transmitted electronically to any Participant. Unless specifically stated otherwise, each Award Agreement shall be subject to the terms and conditions of this Plan;

"**Awardee**" means a Participant who has been granted one or more Awards; "**Board**" means the board of directors of the Company;

"**Code**" means the United States Internal Revenue Code of 1986, as amended;

"**Common Shares**" means the Voting Common Shares or the Non-Voting Common Shares in the capital of the Company;

"**Consultant Participant**" means an individual or a consultant company, other than an Employee Participant, a Director Participant or an Executive Participant, that:

(a) is engaged to provide services on a *bona fide* basis to the Company or a Related Entity, other than services provided in relation to a distribution of securities of the Company or a Related Entity;

(b) provides the services under a written contract with the Company or a Related Entity; and

(c) spends or will spend a significant amount of time and attention on the affairs and business of the Company or a Related Entity.

For the purposes of this definition, "**consultant company**" means, with respect to an individual consultant, either (i) a company of which the individual consultant is an employee or shareholder; or (ii) a partnership of which the individual consultant is an employee or partner;

"**Date of Grant**" means, for any Award, the date specified by the Board at the time it grants the Award (provided, however, that such date shall not be prior to the date the Board acts to grant the Award) or, if no such date is specified, the date upon which the Award was granted;

"**Director**" means a member of the Board or a member of the board of directors of a Related Entity;

"**Director Participant**" means a Director, who is not an officer or employee of the Company or of a Related Entity;

"**Disabled**" or "**Disability**" means the permanent and total incapacity of an Optionee as determined in accordance with procedures established by the Board for purposes of this Plan;

"**Dividend Equivalents**" has the meaning set forth in Section 5.2(b);

"**Employee Participant**" means a current employee (other than an Executive Participant or a Consultant Participant) of the Company or of a Related Entity;

"**Executive Participant**" means an officer of the Company or of a Related Entity;

"**Exercise Notice**" means a notice in writing, in the form set out in Schedule B, signed by an Optionee and stating the Optionee's intention to exercise a particular Option;

"**Exercise Period**" means the period of time during which an Option granted under this Plan may be exercised in accordance with this Plan;

"**Exercise Price**" means the price at which an Option Share may be purchased pursuant to the exercise of an Option;

"**Fair Market Value**" means, as of any date, the value of a Common Share as follows: (i) if the Common Share is listed on any established stock exchange or a national market system, the "Fair Market Value" shall be the closing price of a Common Share (or if no sales were reported, the closing price on the date immediately preceding such date) as quoted on such exchange or system on the day of determination; or (ii) in the absence of an established market for the Common Share, the "Fair Market Value" shall be determined in good faith by the Board and such determination shall be conclusive and binding on all persons;

"**Individual Optionee**" means an Optionee who is an individual;

"**Initial Public Offering**" means any initial public offering of the Company's securities resulting in the Company's securities being publicly traded on a recognized North American stock exchange (including, for greater certainty, the NASDAQ National Market);

"**ISO**" has the meaning set forth in Section 4.11;

"**Liquidity Event**" means:

(a) any voluntary or involuntary liquidation, dissolution or winding-up of the affairs of the Corporation or other distribution of assets of the Corporation among its shareholders for the purpose of winding-up its affairs;

(b) the consummation of a merger, amalgamation, arrangement or other transaction or series of related transactions resulting in the combination of the Corporation with or into another entity (including an issuance from treasury of securities in the capital of the Corporation), where the shareholders of the Corporation immediately prior to such transaction or series of related transactions, directly or indirectly do not continue to hold more than a 50% voting interest in the continuing or surviving entity immediately following such transaction or series of related transactions and no shareholder who held less than a 50% voting interest in the Corporation before such event holds directly or indirectly more than a 50% voting interest in the continuing or surviving entity immediately following such event;

(c) any sale or other disposition or series of related sales or dispositions of the outstanding Shares (other than, for greater certainty, an issuance from treasury of securities in the capital of the Corporation) where the Shareholders immediately prior to such transaction or series of related transactions, directly or indirectly, do not continue to hold more than a 50% voting interest in the Corporation immediately

following such transaction or series of related transactions and no Shareholder who held less than a 50% voting interest in the Corporation before such event holds directly or indirectly more than a 50% voting interest in the Corporation immediately following such event; or

(d) any sale, lease, transfer, exclusive license or other disposition of all or substantially all of the Corporation's assets or all or substantially all of the Corporation's intellectual property (other than a sale, lease transfer, exclusive license or other disposition to a wholly-owned subsidiary of the Corporation);

provided that, for greater certainty, the following events shall not constitute a "**Liquidity Event**": (i) an amalgamation, merger or consolidation of the Corporation with or into a wholly-owned subsidiary; (ii) a transaction undertaken solely for the purpose of changing the Corporation's place of domicile or jurisdiction of incorporation; (iii) an equity or debt financing of the Corporation; or (iv) an Initial Public Offering (such meaning of "Liquidity Event", for greater certainty, is identical to the meaning given to the term "Liquidation Event" in the Shareholders Agreement and if the definition of "Liquidation Event" is hereafter amended in the Shareholders Agreement, the definition of "Liquidity Event" in this Plan shall be automatically amended accordingly with no further action required);

"**Liquidity Event Price**" means the amount payable in respect of each Common Share upon the occurrence of the Liquidity Event; provided that in the absence of an established amount payable in connection with the Liquidity Event, the "Liquidity Event Price" shall be determined in good faith by the Board and such determination shall be conclusive and binding on all persons;

"**Option**" means a right to purchase Common Shares under this Plan that is non- assignable and non-transferable unless otherwise approved by the Board;

"**Optionee**" means a Participant who has been granted one or more Options;

"**Option Shares**" means Common Shares that will be issued by the Company upon the exercise of outstanding Options;

"**Participant**" means an Employee Participant, a Director Participant, an Executive Participant or a Consultant Participant;

"**person**" includes an individual, sole proprietorship, partnership, unincorporated association, unincorporated syndicate, unincorporated organization, trust, body corporate, limited liability company, and a natural person in his or her capacity as trustee, executor, administrator or other legal representative;

"**Plan**" means this Equity Incentive Plan, as may be amended or restated from time to time;

"**Power of Attorney**" has the meaning set forth in Section 3.6;

"**Related Entity**" means a person that controls or is controlled by the Company or that is controlled by the same person that controls the Company;

"**Restricted Award**" means any Award granted pursuant to Article 5;

"**Restricted Period**" has the meaning set forth in Section 5.1;

"**Restricted Shares**" has the meaning set forth in Section 5.1;

"**Restricted Share Units**" has the meaning set forth in Section 5.1;

"**Retirement**" means retirement from active employment with the Company or a Related Entity at or after age 65 or, with the consent for purposes of this Plan of such officer of the Company as may be designated by the Board, at or after such earlier age and upon the completion of such years of service as the Board may specify;

"**Shareholders Agreement**" means the Amended and Restated Shareholders Agreement between the Company and its shareholders dated October 2, 2015, as may be amended, restated or replaced from time to time;

"**Termination Date**" means:

(a) in the case of an Employee Participant or Executive Participant whose employment or term of office, as the case may be, with the Company or a Related Entity terminates in the circumstances set out in Section 4.7(b) or Section 4.7(c), the later of: (i) the date that is the last day of any statutory notice period applicable to the Awardee pursuant to applicable employment standards legislation; and (ii) the date that is designated by the Company or a Related Entity, as the case may be, as the last day of the Awardee's employment or term of office with the Company or the Related Entity, as the case may be, provided that in the case of termination of employment by voluntary resignation by the Awardee, such date shall not be earlier than the date the notice of resignation was given, and "**Termination Date**" specifically does not mean the date on which any period of reasonable notice that the Company or the Related Entity (as the case may be) may be required at law to provide to the Awardee expires;

(b) in the case of a Director Participant who ceases to hold office in the circumstances set out in Section 4.7(d), the date upon which the Awardee ceases to hold office; or

(c) in the case of a Consultant Participant whose consulting agreement or arrangement with the Company or a Related Entity, as the case may be, terminates in the circumstances set out in Section 4.7(e) or Section 4.7(f), the date that is designated by the Company or the Related Entity, as the case may be, as the date on which the Awardee's consulting agreement or arrangement is terminated, provided that in the case of voluntary termination by the Awardee of the Awardee's consulting agreement or arrangement, such date shall not be earlier than the date that notice of voluntary termination was given, and "**Termination Date**" specifically does not mean the date on which any period of notice of termination that the Company or the Related Entity (as the case may be) may be required to provide to the Awardee under the terms of the consulting agreement or arrangement expires;

"**Vesting Commencement Date**" means, for any Option, the date for vesting of such Option to commence, as specified by the Board at the time it grants such Option, or, if no such date is specified, the Date of Grant; and

2.2 Interpretation

(a) This Plan is created under and is to be governed, construed and administered in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein.

(b) Whenever the Board is to exercise discretion in the administration of the terms and conditions of this Plan, the term "**discretion**" means the sole and absolute discretion of the Board.

(c) As used herein, the terms "**Article**", "**Section**" and "**Schedule**" mean and refer to the specified Article, Section and Schedule of this Plan, respectively.

(d) Where the word "**including**" or "**includes**" is used in this Plan, it means "including (or includes) without limitation".

(e) Words importing the singular include the plural and vice versa and words importing any gender include any other gender.

(f) Unless otherwise specified, all references to money amounts are to Canadian dollars.

ARTICLE 3
PLAN ADMINISTRATION

3.1 Plan Administration

This Plan will be administered by the Board and the Board has sole and complete authority, in its discretion, to:

(a) construe and interpret this Plan and apply its provisions;

(b) promulgate, amend and rescind rules and regulations relating to the administration of this Plan;

(c) authorize any person to execute, on behalf of the Company, any instrument required to carry out the purposes of this Plan;

(d) determine when Awards are to be granted under this Plan and the applicable Date of Grant;

(e) select, from time to time, subject to the limitations set forth in this Plan, those Participants to whom Awards shall be granted;

(f) determine the number and type of Common Shares to be made subject to each Award;

(g) prescribe the terms and conditions of each Award, including the Exercise Price, the Vesting Commencement Date and medium of payment and vesting provisions, and to specify the provisions of the Award Agreement relating to such grant;

(h) determine whether each Option is to be an ISO or a nonqualified stock option for purposes of the Code;

(i) determine the duration and purpose of leaves of absences which may be granted to a Participant without constituting termination of their employment for purposes of this Plan, which periods shall be no shorter than the periods generally applicable to employees under the Company's employment policies;

(j) make decisions with respect to outstanding Awards that may become necessary upon a change in corporate control or an event that triggers anti-dilution adjustments;

(k) cancel, amend, adjust or otherwise change any Award under circumstances as the Board may consider appropriate in accordance with the provisions of this Plan;

(l) delegate the day-to-day administration of this Plan to officers and employees of the Company or a Related Entity;

(m) to the extent permitted by applicable law, delegate to a committee of the Board (for purposes of this Section 3.1, the "**Committee**") all or any of the powers conferred on the Board pursuant to this Plan and, in such event: (i) the Committee shall be permitted to exercise the powers delegated to it by the Board in the manner and on the terms authorized by the Board; and (ii) any determinations or actions taken by the Committee within its delegated authority are conclusive and binding on the Company and all other persons;

(n) interpret, administer, reconcile any inconsistency in, correct any defect in and/or supply any omission in this Plan and any instrument or agreement relating to, or Award granted under, this Plan; and

(o) exercise discretion to make any and all other determinations which it determines to be necessary or advisable for the administration of this Plan, including any delegation of authority under this Plan.

The Board's determinations and actions within its authority under this Plan are conclusive and binding on the Company and all other persons.

3.2 Eligibility

All Participants are eligible to participate in this Plan, subject to Sections 4.6(b) and 4.7(g). Eligibility to participate does not confer upon any Participant any right to be granted Awards pursuant to this Plan. The extent to which any Participant is entitled to be granted Awards pursuant to this Plan will be determined in the discretion of the Board.

3.3 Total Common Shares Subject to this Plan

(a) Subject to adjustment in accordance with Article 6, the aggregate number of Common Shares that may be issued pursuant to the grant of Awards (which number shall be deemed to include the number of any hypothetical Common Shares corresponding to any Restricted Share Units) shall not exceed 2,755,000. No Award may be granted if such grant would have the effect of causing the total number of Common Shares (including any hypothetical Common Shares corresponding to any Restricted Share Units) subject to this Plan to exceed the above-noted total number of Common Shares reserved for issuance.

(b) To the extent Awards terminate for any reason, are forfeited or are cancelled, the Common Shares subject to such Awards shall be added back to the number of Common Shares reserved for issuance under this Plan and such Common Shares will again become available for grant under this Plan.

(c) All Common Shares that may be issued pursuant to the grant of Awards under this Plan, as adjusted in accordance with Article 6, shall be available for issuance as ISOs.

3.4 Award Agreements

All Awards under this Plan will be evidenced by Award Agreements. Such Award Agreements will be subject to the applicable provisions of this Plan and will contain such provisions as are required by this Plan and any other provisions that the Board may direct. The Board shall authorize and empower any director or officer of the Company to execute and deliver, for and on behalf of the Company, an Award Agreement to each Participant.

3.5 Shareholders Agreement

Each Awardee shall be required, at the time of exercising an Option, upon receiving Restricted Shares or upon receiving Common Shares in connection with the settlement of a Restricted Share Unit, to sign and deliver an adoption agreement or counterpart and acknowledgement to each Shareholders Agreement then in effect and any other agreement that the Company requires a holder of Common Shares to sign (to the extent that such agreements exist and such Awardee is not already a party to such agreements), in form and substance satisfactory to the Company. Each Awardee acknowledges that the Shareholders Agreement restrict transfers of Common Shares.

3.6 Power of Attorney

Unless otherwise determined by the Board, at the time of exercising an Option, upon receiving Restricted Shares or upon receiving Common Shares in connection with the settlement of a Restricted Share Unit, each Awardee shall be required to sign and deliver an irrevocable power of attorney (the "**Power of Attorney**"), in the form attached hereto as Schedule C (subject to such amendments thereto as the Board may, in its discretion, require from time to time).

ARTICLE 4
OPTIONS

4.1 Grant of Options

The Board may, from time to time, subject to the provisions of this Plan and such other terms and conditions as the Board may prescribe, grant Options to any Participant pursuant to an Award Agreement. An Award Agreement evidencing a grant of Options shall be substantially in the form attached as Schedule A.

4.2 Exercise Price

(a) Prior to an Initial Public Offering, the Exercise Price per Option Share purchasable under an Option shall be the price as determined by the Board and in effect on the Date of Grant.

(b) After an Initial Public Offering, the Board will establish the Exercise Price at the time each Option is granted, which Exercise Price must in all cases be not less than the price required by applicable regulatory authorities.

4.3 Term of Options

Subject to any accelerated termination as set forth in this Plan, each Option, unless otherwise specified by the Board, expires on the tenth anniversary of the Vesting Commencement Date, provided that in no event will the Exercise Period of an Option exceed 10 years.

4.4 Vesting Schedule

(a) Unless otherwise specified by the Board at the time of granting an Option and except as otherwise provided in this Plan, each Option will vest and be exercisable as follows:

(i) such Option with respect to 1/4 of the Option Shares shall vest and become exercisable on the first anniversary of the Vesting Commencement Date, and shall remain exercisable up to and including the tenth anniversary of the Vesting Commencement Date; and

(ii) such Option with respect to 1/48 of the Option Shares shall vest and become exercisable monthly (in arrears), commencing one full calendar month after the first anniversary of the Vesting Commencement Date and monthly thereafter to the fourth anniversary of the Vesting Commencement Date, and shall remain exercisable up to and including the tenth anniversary of the Vesting Commencement Date;

provided that in no event will an Option be exercisable after the expiration or termination of such Option.

(b) For greater certainty, once an installment becomes vested, it shall remain vested and shall be exercisable until expiration or termination of the Option, unless otherwise specified by the Board. Each Option or installment may be exercised at any time or from time to time, in whole or in part, for up to the total number of Option Shares with respect to which it is then exercisable. The Board has the right to accelerate the date upon which any installment of any Option becomes exercisable.

(c) Subject to the provisions of this Plan and any Award Agreement, Options shall be exercised by means of a fully completed Exercise Notice delivered to the Company.

4.5 Payment of Exercise Price

Unless otherwise specified by the Board at the time of granting an Option, the Exercise Notice must be accompanied by payment in full of the purchase price for the Option Shares to be purchased. The Exercise Price must be fully paid in cash, or by certified cheque, bank draft or money order payable to the Company or by such other means as might be specified from time to time by the Board. No Common Shares will be issued or transferred until full payment therefor has been received by the Company. Until the occurrence of a Liquidity Event, any certificate or certificates representing the acquired Common Shares shall be held by the Company, on behalf of the Optionee, with the Company's corporate records.

4.6 Retirement, Death or Disability of Individual Optionee

Subject to Section 4.8, or unless otherwise specified by the Board at the time of granting an Option, if an Individual Optionee dies or becomes Disabled while the Individual Optionee is an employee, director or officer of the Company or a Related Entity, or if the employment or term of office of the Individual Optionee with the Company or a Related Entity terminates due to Retirement, then:

(a) the executor or administrator of the Individual Optionee's estate or the Individual Optionee, as the case may be, may exercise any Options of the Individual Optionee to the extent that the Options have vested as at the date of such death, Disability or Retirement and the right to exercise such Options terminates on the earlier of: (i) the date on which the Exercise Period of the particular Option expires; or (ii) the date that is 60 days after the Individual Optionee's death, Disability or Retirement. Any Options held by the Individual Optionee that have not vested as at the date of death, Disability or Retirement immediately expire and are cancelled on such date; and

(b) the Individual Optionee's eligibility to receive further grants of Options under this Plan ceases as of the date of the Individual Optionee's death, Disability or Retirement, as the case may be.

4.7 Termination of Employment or Services

Subject to Section 4.8 or unless otherwise specified by the Board at the time of granting an Option:

(a) Where, in the case of an Employee Participant, an Executive Participant or a Director Participant, an Individual Optionee's employment or term of office with the Company or a Related Entity ceases by reason of the Individual Optionee's death, Disability or Retirement, then the provisions of Section 4.6 will apply.

(b) Where, in the case of an Employee Participant or Executive Participant, an Individual Optionee's employment or term of office is terminated: (x) by the Company or a Related Entity without cause (whether such termination occurs with or without any or adequate reasonable notice, or with or without any or adequate compensation in lieu of such reasonable notice); or (y) by reason of the voluntary resignation by such Individual Optionee, then except as provided otherwise in such Participant's employment, retention or similar agreement, any Options held by the Individual Optionee that have vested as at the Termination Date continue to be exercisable by the Individual Optionee until the earlier of: (i) the date on which the Exercise Period of the particular Option expires; or (ii) the date that is 60 days after the Termination Date. Any Options held by the Individual Optionee that have not vested as at the Termination Date immediately expire and are cancelled on the Termination Date.

(c) Where, in the case of an Employee Participant or Executive Participant, an Individual Optionee's employment or term of office terminates by reason of termination by the Company or a Related Entity for cause, then any Options held by the Individual Optionee, whether or not they have vested as at the Termination Date, immediately expire and are cancelled on the Termination Date.

(d) Where, in the case of a Director Participant, an Individual Optionee ceases to hold office, then any Options held by the Individual Optionee that have vested as at the Termination Date continue to be exercisable by the Individual Optionee until the earlier of: (i) the date on which the Exercise Period of the particular Option expires; or (ii) the date that is 60 days after the Termination Date; except that this Section 4.7(d) will not apply if such Director Participant is also an Employee Participant, Executive Participant or a Consultant Participant and such Participant's employment or consulting agreement is not terminated. Any Options held by the Individual Optionee that have not vested as at the Termination Date immediately expire and are cancelled on the Termination Date; except for such Director Participant who is also an Employee Participant, Executive Participant or a Consultant Participant and such Participant's employment or consulting agreement is not terminated.

(e) Where, in the case of a Consultant Participant, except as provided otherwise in the Consultant Participant's consulting agreement, an Optionee's consulting agreement or arrangement terminates by reason of: (i) termination by the Company or a Related Entity for any reason whatsoever other than for breach of the consulting agreement or arrangement (whether or not such termination is effected in compliance with any termination provisions contained in the Optionee's consulting agreement or arrangement); or (ii) the death or Disability of the Individual Optionee, then any Options held by the Optionee that have vested as at the Termination Date, or at the date of the death or Disability of the Individual Optionee, as the case may be, continue to be exercisable by the Optionee until the earlier of: (i) the date on which the Exercise Period of the particular Option expires; or (ii) the date that is 60 days after the Termination Date. Any Options held by the Optionee that have not vested as at the Termination Date, or at the date of the death or Disability of the Individual Optionee, as the case may be, immediately expire and are cancelled on the Termination Date.

(f) Where, in the case of a Consultant Participant, an Optionee's consulting agreement or arrangement terminates by reason of: (i) termination by the Company or a Related Entity for breach of the consulting agreement or arrangement (whether or not such termination is effected in compliance with any termination provisions contained in the Optionee's consulting agreement or arrangement); or (ii) voluntary termination by the Optionee (whether or not such termination is effected in compliance with any termination provisions contained in the Optionee's consulting agreement or arrangement), then any Options held by the Optionee, whether or not such Options have vested as at the Termination Date, immediately expire and are cancelled on the Termination Date.

(g) An Optionee's eligibility to receive further grants of Options under this Plan ceases as of the date that the Company or a Related Entity, as the case may be, provides the Optionee with written notification that the Optionee's employment, term of office, consulting agreement or arrangement, as the case may be, is terminated, notwithstanding that such date may be prior to the Termination Date.

(h) Notwithstanding Sections 4.7(b), 4.7(d) and 4.7(e), unless the Board, in its discretion, otherwise determines, at any time and from time to time, Options are not affected by a change of employment or engagement within or among the Company or a Related Entity for so long as the Employee Participant continues to be an employee of the Company or a Related Entity, or for so long as the Executive Participant continues to be an officer of the Company or a Related Entity, or for so long as the Director Participant continues to be a director of the Company or a Related Entity, or for so long as the Consultant Participant continues to be engaged as a consultant to the Company or a Related Entity, as the case may be.

4.8 Discretion to Permit Exercise

Notwithstanding the provisions of Sections 4.6 and 4.7, the Board may, in its discretion, at any time prior to or following the events contemplated in such sections, permit the exercise of any or all Options held by the Optionee, in the manner and on the terms authorized by the Board, provided that the Board will not, in any case, authorize the exercise of an Option pursuant to this Section 4.8 beyond the expiration of the Exercise Period of the particular Option.

4.9 Liquidity Event

Notwithstanding anything else in this Plan or any Award Agreement, the Board may, in connection with a Liquidity Event and at its sole discretion and without the consent of any Optionee, take such steps as are necessary or desirable with respect to all outstanding Options that are in the best interests of the Company, including:

(a) take such steps as are necessary or desirable to cause the conversion or exchange of each of the outstanding Options into or for:

(i) Common Shares on a net issuance basis in accordance with the following formula:

$X = Y (A - B) / A$

where:

X = The number of Common Shares to be issued to the Optionee in respect of an Option;

Y = The number of Option Shares subject to such Option;

A = The Liquidity Event Price;

B = The Exercise Price for such Option Shares; or

(ii) options, rights or other securities of substantially equivalent value (or greater value), as determined by the Board in its discretion, in any entity participating in or resulting from such Liquidity Event;

(b) accelerate the vesting of any or all outstanding Options to provide that such outstanding Options shall be fully vested and exercisable contemporaneously with the completion of the transaction resulting in the Liquidity Event provided that the Board shall not, in any case, authorize the exercise of Options pursuant to this section beyond the Exercise Period of the Options. If any of such Options are not exercised contemporaneously with completion of the transaction resulting in the Liquidity Event, such unexercised Options shall terminate and expire upon the completion of the transaction resulting in the Liquidity Event;

(c) determine that any or all outstanding Options will be purchased by the Company or a Related Entity at the Liquidity Event Price less the applicable Exercise Price for the Option Shares available to be purchased under such Options. The Option Shares available to be purchased under the outstanding Options may only be purchased by the Company or a Related Entity, as described above, if the Liquidity Event Price

is higher than the Exercise Price for such Option Shares, and the Company may cancel any Options where the applicable Exercise Price for the Options Shares available to be purchased under such Options is greater than the Liquidity Event Price; and/or

(d) cancel any or all of such outstanding unvested Options.

4.10 Conditions of Exercise

Without limiting Sections 3.5 and 3.6, each Optionee will, when requested by the Company, sign and deliver all such documents relating to the granting or exercise of Options which the Company deems necessary or desirable.

4.11 Incentive Stock Options

The following provisions shall apply, in addition to the other provisions of this Plan which are not inconsistent therewith, to Options intended to qualify as "incentive stock options" (each, for purposes of this Section 4.11, an "**ISO**") under Section 422 of the Code:

(a) Options may be granted as ISOs only to individuals who are employees of the Company or any present or future "subsidiary corporation" or "parent corporation" as those terms are defined in Section 424 of the Code (collectively, for purposes of this Section 4.11, "**Related Companies**") and Options shall not be granted as ISOs to non-employee Directors or independent contractors;

(b) "Disability" in respect of an ISO shall mean "permanent and total disability" as defined in sub-section 22(e)(3) of the Code;

(c) if an Optionee ceases to be employed by the Company and/or all Related Entities other than by reason of death or Disability, Options shall be eligible for treatment as ISOs only if exercised no later than three (3) months following such termination of employment;

(d) the Exercise Price in respect of Options granted as ISOs to employees who own more than 10% of the combined voting power of all classes of stock of the Company or a Related Entity (for purposes of this Section 4.11, a "**10% Stockholder**") shall be not less than 110% of the Fair Market Value per Common Share on the Date of Grant and the term of any ISO granted to a 10% Stockholder shall not exceed 5 years measured from the Date of Grant;

(e) Options held by an Optionee shall be eligible for treatment as ISOs only if the Fair Market Value (determined at the Date of Grant) of the Common Shares with respect to which such Options and all other options intended to qualify as "incentive stock options" under Section 422 of the Code held by such Optionee and granted under this Plan or any other plan of the Company or a Related Entity and which are exercisable for the first time by such Optionee during any one calendar year does not exceed US$100,000 at such time;

(f) by accepting an Option granted as an ISO under this Plan, an Optionee agrees to notify the Company in writing immediately after such Participant makes a "Disqualifying Disposition" of any Common Shares acquired pursuant to the exercise of such ISO; for this purpose, a "**Disqualifying Disposition**" is any disposition occurring on or before the later of (i) the date two years following the date that such ISO was granted or (ii) the date one year following the date that such ISO was exercised;

(g) notwithstanding that this Plan shall be effective when adopted by the Board, no ISO granted under this Plan may be exercised until this Plan is approved by the Company's shareholders and, if such approval is not obtained within 12 months after the date of the Board's adoption of this Plan, then all ISOs previously granted shall terminate and cease to be outstanding and the provisions of this Section 4.11 shall cease to have effect; furthermore, the Board shall obtain shareholder approval within 12 months before or after any increase in the total number of shares that may be issued under this Plan or any change in the class of employees eligible to receive ISOs under this Plan;

(h) no modification of an outstanding Option that would provide an additional benefit to an Optionee, including a reduction of the Exercise Price or extension of the Exercise Period, shall be made without consideration and disclosure of the likely United States federal income tax consequences to the Optionees affected thereby; and

(i) ISOs shall be neither transferable nor assignable by the Participant other than by will or the laws of descent and distribution and may be exercised, during the Optionee's lifetime, only by such Optionee.

4.12 Non-Transferability

Subject to Section 4.6, applicable law and the rules and policies of any stock exchange on which the Common Shares are listed, if applicable, Options granted under this Plan may only be exercised during the lifetime of the Individual Optionee by such Individual Optionee personally. Except to the extent permitted by the Board, no assignment or transfer of Options, whether voluntary, involuntary, by operation of law or otherwise, vests any interest or right in such Options whatsoever in any assignee or transferee and immediately upon any assignment or transfer, or any attempt to make the same, such Awards will terminate and be of no further force or effect.

ARTICLE 5
RESTRICTED AWARDS

5.1 General

A Restricted Award is an Award of Common Shares ("**Restricted Shares**") or hypothetical Common Share units ("**Restricted Share Units**") having a value equal to the Fair Market Value of an identical number of Common Shares, which may, but need not, provide that such Restricted Award may not be sold, assigned, transferred or otherwise disposed of, pledged or hypothecated as collateral for a loan or as security for the performance of any obligation or for any other purpose for such period (the "**Restricted Period**") as the Board shall determine. Each Restricted Award so granted shall be subject to the conditions set forth in this Article 5, and to such other conditions not inconsistent with this Plan as may be reflected in the applicable Award Agreement.

5.2 Restricted Shares and Restricted Share Units

(a) Each Awardee granted Restricted Shares shall execute and deliver to the Company an Award Agreement with respect to the Restricted Shares setting forth the restrictions and other terms and conditions applicable to such Restricted Shares, as determined by the Board. If the Board determines that the Restricted Shares shall be held by the Company or in escrow rather than delivered to the Awardee pending the release of the applicable restrictions, the Board may require the Awardee to additionally execute and deliver to the Company (i) an escrow agreement satisfactory to the Board, if applicable and (ii) the appropriate blank share transfer power with respect to the Restricted Shares covered by such Award Agreement. If an Awardee fails to execute the applicable Award Agreement evidencing an Award of Restricted Shares and, if applicable, an escrow agreement and share transfer power, the Award shall be null and void. Subject to the restrictions set forth in the Award Agreement, the Awardee generally shall have the rights and privileges of a shareholder as to such Restricted Shares, including, subject to Section 3.6, the right to vote such Restricted Shares and the right to receive dividends; provided that, any cash dividends and share dividends with respect to the Restricted Shares shall be withheld by the Company for the Awardee's account, and interest may be credited on the amount of the cash dividends withheld at a rate and subject to such terms as determined by the Board. The cash dividends or share dividends so withheld by the Board and attributable to any particular share of the Restricted Shares (and earnings thereon, if applicable) shall be distributed to the Awardee in cash or, at the discretion of the Board, in Common Shares having a Fair Market Value equal to the amount of such dividends, if applicable, upon the release of restrictions on such share and, if such share is forfeited, the Awardee shall have no right to such dividends.

(b) The terms and conditions of a grant of Restricted Share Units shall be reflected in an Award Agreement. No Common Shares shall be issued at the time a Restricted Share Unit is granted and the Company will not be required to set aside a fund for the payment of any such Award. An Awardee shall have no voting rights with respect to any Restricted Share Units granted hereunder. At the discretion of the Board, each Restricted Share Unit (representing one Common Share) may be credited with cash and share dividends paid by the Company in respect of one Common Share ("**Dividend Equivalents**"). Dividend Equivalents shall be withheld by the Company for the Awardee's account and interest may be credited on the amount of cash Dividend Equivalents withheld at a rate and subject to such terms as determined by the Board. Dividend Equivalents credited to an Awardee's account and attributable to any particular Restricted Share Unit (and earnings thereon, if applicable) shall be distributed in cash or, at the discretion of the Board, in Common Shares having a Fair Market Value equal to the amount of such Dividend Equivalents and earnings, if applicable, to the Awardee upon settlement of such Restricted Share Unit and, if such Restricted Share Unit is forfeited, the Awardee shall have no right to such Dividend Equivalents.

5.3 Restrictions

(a) Restricted Shares awarded to an Awardee shall, in addition to Sections 3.5 and 3.6, be subject to the following restrictions until the expiration of the Restricted Period, and to such other terms and conditions as may be set forth in the applicable Award Agreement:

(i) the Awardee shall not be entitled to delivery of the share certificate with respect to the Restricted Shares;

(ii) the Restricted Shares shall be subject to the restrictions on transferability set forth in the Award Agreement;

(iii) the Restricted Shares shall be subject to forfeiture to the extent provided in the applicable Award Agreement; and

(iv) if any Restricted Shares are forfeited, all rights of the Awardee to such Restricted Shares and as a shareholder with respect to such Restricted Shares shall terminate without further obligation on the part of the Company.

(b) Restricted Share Units awarded to any Awardee shall be subject to:

(i) forfeiture until the expiration of the Restricted Period and to the extent such Restricted Share Units are forfeited, all rights of the Awardee to such Restricted Share Units shall terminate without further obligation on the part of the Company; and

(ii) such other terms and conditions as may be set forth in the applicable Award Agreement.

(c) Restricted Share Units awarded to any Awardee that is not a non-resident for purposes of the *Income Tax Act* (Canada) shall:

(i) if such Restricted Share Units are to be settled in cash, only be settled in cash and shall be fully paid out by December 31 of the third calendar year following the year of service of the Awardee to which such Award relates; or

(ii) if such Restricted Share Units are to be settled in Common Shares, only be settled with Common Shares issued from treasury.

(d) The Board shall have the authority to remove any or all of the restrictions on the Restricted Shares and Restricted Share Units whenever it may determine that, by reason of changes in applicable laws or other changes in circumstances arising after the Date of Grant of the Restricted Shares or Restricted Share Units, such action is appropriate.

5.4 Restricted Period

(a) With respect to Restricted Awards, unless otherwise specified by the Board at the time of granting the Restricted Award or as set forth in Section 5.3(c), the Restricted Period shall commence on the Date of Grant and end no earlier than four years after the Date of Grant; provided that if the Awardee is:

(i) terminated by the Company; or

(ii) voluntarily resigns his or her engagement or employment with the Company; or

(iii) ceases to work for the Company as a result of retirement, death or disability,

in each case, prior to the fourth anniversary of the Date of Grant, then that number of Restricted Shares or Restricted Share Units subject to the Restricted Award as is equal to:

(i) where the date of the event noted in any of Sections 5.4(a)(i)-(iii) is prior to the first anniversary of the Date of Grant, all Restricted Shares or Restricted Share Units subject to the Restricted Award; or

(ii) where the date of the event noted in any of Sections 5.4(a)(i)-(iii) is on or after the first anniversary of the Date of Grant but before the fourth anniversary of the Date of Grant, then 3/4 of the Restricted Shares or Restricted Share Units subject to the Restricted Award, multiplied by the fraction that the numerator of which is the result of 36 less the number of complete calendar months that have elapsed since the first anniversary of the Date of Grant, and the denominator of which is 36,

shall be automatically cancelled and, in the case of Restricted Shares, the Common Shares subject to such Restricted Award shall be added back to the number of Common Shares reserved for issuance under this Plan and such Common Shares will again become available for grant under this Plan.

(b) No Restricted Award may be granted or settled for a fraction of a Common Share.

5.5 Delivery of Restricted Shares and Settlement of Restricted Share Units

(a) Upon the expiration of the Restricted Period with respect to any Restricted Shares:

(i) the restrictions set forth in Section 5.3 and the applicable Award Agreement shall be of no further force or effect with respect to such Restricted Shares, except as set forth in the applicable Award Agreement; and

(ii) the Company shall deliver to the Awardee, or his or her beneficiary, without charge, the share certificate evidencing the Restricted Shares which have not then been forfeited and with respect to which the Restricted Period has expired (to the nearest full share) and any cash dividends or share dividends credited to the Awardee's account with respect to such Restricted Shares and the interest thereon, if any.

(b) Upon the expiration of the Restricted Period with respect to any outstanding Restricted Share Units, the Company shall deliver to the Awardee, or his or her beneficiary, without charge, one Common Share for each such outstanding Restricted Share Unit (for purposes of this Section 5.5, a "**Vested Unit**") and cash equal to any Dividend Equivalents credited with respect to each such Vested Unit in accordance with Section 5.2(b) and the interest thereon or, at the discretion of the Board, in Common Shares having a Fair Market Value equal to such Dividend Equivalents and the interest thereon, if any; provided, however, that, if explicitly provided in the applicable Award Agreement, the Board may, in its sole discretion, elect to pay cash or part cash and part Common Shares in lieu of delivering only Common Shares for Vested Units. If a cash payment is made in lieu of delivering Common Shares, the amount of such payment shall be equal to the Fair Market Value of the Common Shares as of the date on which the Restricted Period lapsed with respect to each Vested Unit.

5.6 Share Legend

Each certificate representing Restricted Shares awarded under this Plan shall bear a legend in such form as the Company deems appropriate.

ARTICLE 6
SHARE CAPITAL ADJUSTMENTS

6.1 General

The existence of any Awards does not affect in any way the right or power of the Company or its shareholders to make, authorize or determine any adjustment, recapitalization, reorganization or any other change in the Company's capital structure or its business, or any amalgamation, arrangement, combination, merger or consolidation involving the Company, to create or issue any bonds, debentures, Common Shares or other securities of the Company or to determine the rights and conditions attaching thereto, to effect the dissolution or liquidation of the Company or any sale or transfer of all or any part of its assets or business, or to effect any other corporate act or proceeding, whether of a similar character or otherwise, whether or not any such action referred to in this section would have an adverse effect on this Plan or any Award pursuant to this Plan.

6.2 Reorganization of Company's Capital

Should the Company effect a subdivision or consolidation of Common Shares or any similar capital reorganization or a payment of a share dividend (other than a share dividend that is in lieu of a cash dividend), or should any other change be made in the capitalization of the Company that, in the opinion of the Board, would warrant the replacement or amendment of any existing Awards in order to adjust: (a) the number of Common Shares that

may be acquired pursuant to any outstanding Awards; and/or (b) in the case of Options, the Exercise Price of any outstanding Options in order to preserve proportionately the rights and obligations of the Optionees, the Board will authorize such steps to be taken as may be equitable and appropriate to that end.

6.3 Other Events Affecting the Company

In the event of an amalgamation, arrangement, combination, merger or other reorganization involving the Company by exchange of Common Shares, by sale or lease of assets or otherwise, that, in the opinion of the Board, warrants the replacement or amendment of any existing Awards in order to adjust: (a) the number of Common Shares that may be acquired pursuant to any outstanding Awards; and/or (b) in the case of Options, the Exercise Price of any outstanding Options in order to preserve proportionately the rights and obligations of the Optionees, the Board will authorize such steps to be taken as may be equitable and appropriate to that end.

6.4 Immediate Exercise of Awards

Where the Board determines that the steps provided in Sections 6.2 and 6.3 would not preserve proportionately the rights and obligations of the Awardees in the circumstances or otherwise determines that it is appropriate, the Board may permit the immediate exercise of any outstanding Awards that are not otherwise exercisable.

6.5 Issue by Company of Additional Shares

Except as expressly provided in this Article 6, neither the issue by the Company of shares of any class in its capital or by the Company or a Related Entity of securities convertible into or exchangeable for shares of any class in the capital of the Company, nor the conversion or exchange of such shares or securities, affects (and no adjustment by reason thereof is to be made with respect to): (a) the number of Common Shares that may be acquired pursuant to any outstanding Awards; or (b) in the case of Options, the Exercise Price of any outstanding Options.

6.6 Fractions

No fractional Common Shares will be issued on the exercise of an Award. Accordingly, if, as a result of any adjustment under Sections 6.2 to 6.4 inclusive, an Awardee would become entitled to a fractional Common Share, the Awardee has the right to acquire only the adjusted number of full Common Shares and no payment or other adjustment will be made with respect to the fractional Common Shares so disregarded.

6.7 Conditions of Exercise

This Plan and each Award are subject to the requirement that if at any time the Board determines that the listing, registration or qualification of the Common Shares subject to such Award upon any securities exchange or under any provincial or federal law, or the consent or approval of any governmental body, securities exchange or of the holders of the Common Shares generally, is necessary or desirable, as a condition of, or in connection with, the granting of such Award or the issue or purchase of Common Shares thereunder, no such Award may be granted or exercised in whole or in part unless such listing, registration, qualification, consent or approval has been effected or obtained free of any conditions not acceptable to the Board. The

Awardees shall, to the extent applicable, cooperate with the Company in relation to such listing, registration, qualification, consent or other approval and shall have no claim or cause of action against the Company or any of its officers or directors as a result of any failure by the Company to obtain or to take any steps to obtain any such registration, qualification or approval.

ARTICLE 7
MISCELLANEOUS PROVISIONS

7.1 Legal Requirement

The Company is not obligated to grant any Awards, issue any Common Shares or other securities, make any payments or take any other action if, in the opinion of the Board, in its sole discretion, such action would constitute a violation by an Awardee, the Company or a Related Entity of any provision of any applicable statutory or regulatory enactment of any government or government agency.

7.2 Awardee's Entitlement

Except as otherwise provided in this Plan, Awards previously granted under this Plan, whether or not then exercisable, are not affected by any change in the relationship between, or ownership of, the Company and a Related Entity. For greater certainty, all Awards remain valid and, in the case of Options, exercisable, in accordance with the terms and conditions of this Plan and are not affected by reason only that, at any time, a Related Entity ceases to be a Related Entity.

7.3 Withholding Taxes

As a condition of and prior to participation in this Plan, each Awardee authorizes the Company to withhold from any amount otherwise payable to the Awardee any amounts required by any taxing authority to be withheld for taxes of any kind as a consequence of the Awardee's participation in this Plan or issuance of Common Shares. The Company may, prior to and as a condition of issuing any Common Shares in such circumstances, require the Awardee to pay to the Company in cash or such other consideration as the Board, in its discretion, may accept, such amount as the Company is obliged to remit in accordance with applicable laws in respect of any such issuance of Common Shares or payment or crediting of such amount. The Company shall also have the right, in its sole discretion, to satisfy any such liability for withholding or other required deduction amounts by requiring the Awardee to complete a sale in respect of such number of Common Shares that have been issued and would otherwise be delivered to the Awardee under this Plan, and any amount payable from such sale will first be paid to the Company to satisfy any liability for withholding. The Company may require an Awardee, as a condition of participation in this Plan, to pay or reimburse the Company for any cost incurred by the Company as a result of the participation by the Awardee in this Plan.

7.4 Waiver of Information Rights

Subject to the discretion of the Board, an Awardee that has been issued Common Shares pursuant to an Award granted under this Plan shall, by acceptance of such Common Shares, be deemed to have waived any rights such shareholder would otherwise have to receive financial statements of the Company.

7.5 Non-Canadian Participants

In order to assure the viability of Awards granted to Participants employed or resident in countries other than Canada, the Board may provide for such additional or varied terms in the Award Agreements entered into with such Participants as it may consider necessary or appropriate to accommodate differences in local law, tax policy or custom.

7.6 Rights of Participant

No Participant has any claim or right to be granted an Award (including an Award granted in substitution for any Award that has expired pursuant to the terms of this Plan). No Optionee or Awardee for Restricted Share Units has any rights as a shareholder of the Company in respect of Common Shares issuable pursuant to any Award until the allotment and issuance to the Optionee or the Awardee for Restricted Share Units of certificates representing such Common Shares in accordance with this Plan and the applicable Award Agreement representing such Option or Restricted Share Units, as the case may be.

7.7 Termination

The Board may terminate this Plan at any time without shareholder approval. Notwithstanding the foregoing, subject to the discretion of the Board, the termination of this Plan shall have no effect on outstanding Awards, which shall continue in effect in accordance with their terms and conditions and the terms and conditions of this Plan.

7.8 Compliance with Stock Exchange

The Board may make changes to the terms of any granted Awards or this Plan to the extent necessary or desirable to comply with any rules, regulations or policies of any stock exchange on which the Common Shares may be listed following an Initial Public Offering.

7.9 Indemnification

Every Director will at all times be indemnified and saved harmless by the Company from and against all costs, charges and expenses whatsoever, including any income tax liability arising from any such indemnification, that such Director may sustain or incur by reason of any action, suit or proceeding, taken or threatened against the Director, otherwise than by the Company or a Related Entity, for or in respect of any act done or omitted by the Director in respect of this Plan, such costs, charges and expenses to include any amount paid to settle such action, suit or proceeding or in satisfaction of any judgment rendered therein.

7.10 Participation in this Plan

The participation of any Participant in this Plan is entirely voluntary and not obligatory and shall not be interpreted as conferring upon such Participant any rights or privileges other than those rights and privileges expressly provided in this Plan. In particular, participation in this Plan does not constitute a condition of employment or service nor a commitment on the part of the Company or any Related Entity to ensure the continued employment or service of such Participant. This Plan does not provide any guarantee against any loss which may result from fluctuations in the market value of the Common Shares. The Company does not assume responsibility for the personal income or other tax consequences for the Participants and they are advised to consult with their own tax advisors.

7.11 Amendments

The Board may, without notice, at any time or from time to time, amend this Plan or any provisions hereof in such respects as it, in its sole discretion, determines appropriate; provided that no such amendment shall have any effect with respect to all Awards outstanding as at the date of such amendment without the prior consent of the Awardees holding Awards that represent at least a majority of the Common Shares that are subject to the then outstanding Awards; provided that if any such amendment impairs an Awardee's rights or increases an Awardee's obligations under such Awardee's Award or creates or increases an Awardee's income tax liability with respect to an Award, in each case, in a manner that would materially and adversely affect such Awardee disproportionately more than any other Awardee, such amendment shall also be subject to such Awardee's consent.

7.12 Corporate Action

Nothing contained in this Plan or in an Award shall be construed so as to prevent the Company from taking corporate action which is deemed by the Company to be appropriate or in its best interest, whether or not such action would have an adverse effect on this Plan or any Award, including, with respect to an Award previously granted, any adjustments to the Exercise Price, Exercise Period or number of Commons Shares subject to the Award, provided that any such adjustment is required by any securities exchange or applicable securities laws.

7.13 Notices

All written notices to be given by the Awardees to the Company shall be delivered personally or by registered mail, postage prepaid, addressed as follows:

Turnstone Biologics Inc.
787 Bank Street, 2nd Floor
Ottawa ON K1S 3V5

Attention: Chief Executive Officer

Any notice given by the Awardee pursuant to the terms of an Award shall not be effective until actually received by the Company at the above address.

DATED October 1, 2016.

[Signature Page Follows]

TURNSTONE BIOLOGICS INC.

By: /s/ Sammy Farah
Name: Sammy Farah
Title: Chief Executive Officer

[SIGNATURE PAGE TO THE EQUITY INCENTIVE PLAN]

SCHEDULE A
Form of Option Agreement

•[1]1

Dear •:

Turnstone Biologics Inc. (the "**Company**") grants to you an option (this "**Option**") to purchase, in accordance with and subject to the terms, conditions and restrictions of this Option Agreement (which are attached to this Option Agreement as Appendix I) and the provisions of the Amended and Restated Equity Incentive Plan of the Company dated October 1, 2016 (the "**Plan**"), the number and type of Common Shares in the capital of the Company (the "**Common Shares**") at an exercise price per share set forth below:

Total Number of Common Shares Subject to this Option:	• **[Voting / Non-Voting]** Common Shares
Exercise Price:	$•
Vesting Commencement Date:	•
Type of Participant:	☐ Employee Participant ☐ Executive Participant ☐ Director Participant ☐ Consultant Participant *(If none selected, the Type of Participant shall be an Employee Participant.)*

[1] Insert Date of Grant

If you wish to accept this Option, please print your name and sign and date this Option Agreement, as set out below.

TURNSTONE BIOLOGICS INC.

By: _____
Name:
Title:

I have read the foregoing Option Agreement and accept this Option to purchase Common Shares in accordance with and subject to the terms and conditions of this Option Agreement and the Plan. I understand that I may review the complete text of the Plan by contacting the Chief Executive Officer of the Company. I agree to be bound by the terms and conditions of the Plan governing this Option.

Date Accepted	Optionee's Signature
	Optionee's Name (Please Print)

APPENDIX I

GENERAL TERMS AND CONDITIONS

1. The terms and conditions of the Plan are incorporated by reference as terms and conditions of this Option Agreement and all capitalized terms used in this Option Agreement, unless expressly defined in a different manner, have the meanings given in the Plan.

2. Subject to Sections 4.9 and 6.4 of the Plan and unless otherwise determined by the Board at the time of granting this Option, this Option is exercisable in the installments set forth in Section 4.4 of the Plan.

3. In no event is this Option exercisable after the expiration of the relevant Exercise Period, as contemplated pursuant to the Plan.

4. No fractional Common Shares will be issued on the exercise of this Option. If, as a result of any adjustment to the number of Common Shares issuable on the exercise of this Option pursuant to the Plan, you would be entitled to receive a fractional Common Share, you have the right to acquire only the adjusted number of full Common Shares and no payment or other adjustment will be made with respect to the disregarded fractional Common Shares.

5. Nothing in the Plan or in this Option Agreement will affect the Company's right, or that of a Related Entity, to terminate your employment of, term of office of, or consulting agreement or arrangement at any time for any reason whatsoever. Upon such termination, your rights to exercise this Option will be subject to restrictions and time limits for exercising this Option, as set forth in the Plan. Complete details of such restrictions are set out in the Plan, and in particular in Sections 4.6 and 4.7 of the Plan.

6. Each notice relating to this Option, including the exercise thereof, must be in writing. All notices to the Company must be delivered personally or by prepaid registered mail and must be addressed to the Chief Executive Officer of the Company (or the most senior appointed officer of the Company). All notices to you will be addressed to your principal address on file with the Company. Either the Company or you may designate a different address by written notice to the other. Such notices are deemed to be received, if delivered personally, on the date of delivery, and if sent by prepaid, registered mail, on the fifth business day following the date of mailing. Any notice given by either you or the Company is not binding on the recipient thereof until received.

7. When the issuance of Common Shares on the exercise of this Option may, in the opinion of the Company, conflict or be inconsistent with any applicable law or regulation of any governmental agency having jurisdiction, the Company reserves the right to refuse to issue such Common Shares for so long as such conflict or inconsistency remains outstanding.

8. Subject to Section 4.6 of the Plan, this Option may only be exercised during your lifetime by you personally and, subject to Section 4.12 of the Plan, no assignment or transfer of this Option, whether voluntary, involuntary, by operation of law or otherwise, vests any interest or right in such Option whatsoever in any assignee or transferee, and immediately upon any assignment or transfer or any attempt to make such assignment or transfer, this Option terminates and is of no further force or effect. Complete details of this restriction are set out in the Plan.

9. You agree that any rule, regulation or determination, including the interpretation by the Board of the Plan, this Option and its exercise, is final and conclusive for all purposes and binding on all persons including the Company and you.

10. To comply with your obligations under the Plan, you agree to sign and deliver a Power of Attorney at the time of exercising this Option, in the form attached to the Plan as Schedule C (subject to such amendments thereto as the Board may, in its discretion, require from time to time).

11. This Option Agreement has been made in and is to be construed under and in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

[ADDITIONAL US TERMS AND CONDITIONS

12. **The Company may postpone the issuance of Common Shares until it receives satisfactory proof that the issuance of such Common Shares will not violate any of the provisions of the Securities Act of 1933, as amended (the "Securities Act"), or the Securities Exchange Act of 1934, as amended, any rules or regulations of the Securities and Exchange Commission ("SEC") promulgated thereunder, or the requirements of applicable state law relating to authorization, issuance or sale of securities, or until there has been compliance with the provisions of such acts or rules. You understand that the Company is under no obligation to register or qualify the Common Shares with the SEC, any state securities commission or any stock exchange to effect such compliance.**

13. **Purchase for Purpose of Investment.**

    (a) **Securities Law Restrictions. Regardless of whether the offering and sale of Common Shares under the Plan have been registered under the Securities Act, or have been registered or qualified under the securities laws of any state, the Company at its discretion may impose restrictions upon the sale, pledge or other transfer of such Common Shares (including the placement of appropriate legends on certificates or the imposition of stop-transfer instructions) if, in the judgment of the Company, such restrictions are necessary or desirable in order to achieve compliance with the Securities Act, the securities laws of any state or any other law.**

    (b) **Market Stand-Off. In connection with any underwritten public offering by the Company of its equity securities pursuant to an effective registration statement filed under the Securities Act, including the Company's Initial Public Offering, you shall not directly or indirectly sell, make any short sale of, loan, hypothecate, pledge, offer, grant or sell any option or other contract for the purchase of, purchase any option or other contract for the sale of, or otherwise dispose of or transfer, or agree to engage in any of the foregoing transactions with respect to, any Common Shares acquired under this Option**

Agreement without the prior written consent of the Company. Such restriction (the "Market Stand-Off") shall be in effect for such period of time following the date of the final prospectus for the offering as may be required by the Company; provided, however, that with respect to any particular underwritten public offering, such period shall not exceed 180 days.

In the event of any adjustment of, changes in or additions to the Common Shares, any new, substituted or additional interests or securities which are by reason of such adjustment, change or addition distributed with respect to any Common Shares subject to the Market Stand-Off, or into which such Common Shares thereby become convertible, shall immediately be subject to the Market Stand-Off. In order to enforce the Market Stand-Off, the Company may impose stop-transfer instructions with respect to the Common Shares acquired under this Option Agreement until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Section 13(b). This Section 13(b) shall not apply to Common Shares that are registered in a public offering under the Securities Act.

(c) **Investment Intent at Grant. You represent and agree that at the time of grant the Common Shares to be acquired upon exercising this Option will be acquired for investment, and not with a view to the sale or distribution thereof.**

(d) **Investment Intent at Exercise. In the event that the sale of Common Shares under the Plan is not registered under the Securities Act but an exemption is available which requires an investment representation or other representation, you shall represent and agree at the time of exercise that the Common Shares being acquired upon exercising this Option are being acquired for investment, and not with a view to the sale or distribution thereof, and shall make such other representations as are deemed necessary or appropriate by the Company and its counsel.**

(e) **Legends. If the Company chooses to deliver certificates to evidence the Common Shares purchased under this Option Agreement in an unregistered transaction all such certificates shall bear the following or a substantially similar legend (and such other restrictive legends as are required or deemed advisable under the provisions of any applicable law):**

"THE SHARES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT") OR THE SECURITIES LAWS OF ANY OTHER JURISDICTION, AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL (A) REGISTERED UNDER THE SECURITIES ACT OR THE SECURITIES LAWS OF ANY OTHER JURISDICTION, OR (B) IN THE OPINION OF COUNSEL, IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, TRANSFER, PLEDGE OR HYPOTHECATION IS IN COMPLIANCE THEREWITH."

(f) **Removal of Legends. If, in the opinion of the Company and its counsel, any legend placed on a share certificate representing Common Shares sold under this Option Agreement is no longer required, the holder of such certificate shall be entitled to exchange such certificate for a certificate representing the same number of Shares but without such legend.**

(g) **Administration. Any determination by the Company and its counsel in connection with any of the matters set forth in this Section 13 shall be conclusive and binding on you and all other persons.**

14. You acknowledge and agree that the Company makes no representation about the applicability of U.S. tax laws, including of Section 409A of the Internal Revenue Code of 1986, as amended ("Section 409A"), to this Option Agreement and you covenant and agree that the Company shall have no liability to you in the event that Section 409A applies to this Option Agreement. You acknowledge and agree that you are solely responsible for all U.S. tax obligations arising in relation to this Option Agreement.

In the event that any non-qualified deferred compensation (as determined under Section 409A) is payable upon your Separation from Service under this Option Agreement, or any other plan in which you participate, then notwithstanding anything else in the applicable agreement or plan, if you are a Specified Employee, no amount shall be payable prior to the six months from the date that you experience a Separation from Service.

For the purposes of this Section 14, "Separation from Service" shall have the meaning given thereto under Section 409A and the regulations and authority thereunder; and "Specified Employee" shall have the meaning set forth in Section 409A and the regulations and authority thereunder and shall be determined in accordance with the Company's regular process for the identification of "Specified Employees".

15. **You acknowledge that the Company is not responsible for providing (and has not provided) you with any advice relating to tax matters (including Canadian, U.S. or other tax matters) and are responsible for consulting an independent tax advisor regarding the tax consequences that may be applicable to you in connection with the receipt of any Option pursuant to this Option Agreement.]**[2]

16. **[This Option is for non-qualified share options and is not intended to be an incentive stock option under Section 422 of the Internal Revenue Code of 1986, as amended.]**[3]

---

2 Insert for US-based Optionees

3 Review with U.S. Tax counsel before issuing ISOs. If ISOs are intended, replace section 15 with: "This Option is intended to be an incentive stock option under Section 422 of the Internal Revenue Code of 1986, as amended. The holding period and other terms in Section 4.11 of the Plan apply in order to qualify for ISO treatment."

SCHEDULE B
Form of Exercise Notice – Options

I, _____, hereby exercise the option (print name)
(print name)
to purchase _____ **[Voting / Non-Voting]** Common Shares (each, a "**Common Share**") in the capital of Turnstone Biologics Inc. (the "**Company**") at a purchase price of $_____ per Common Share. This Exercise Notice is delivered in respect of the option to purchase _____ Common Shares (the "**Option**") that was granted to me on _____ pursuant to the Option Agreement entered into between the Company and me. In connection with the foregoing, I enclose cash, a certified cheque, bank draft or money order payable to the Company in the amount of $_____ as full payment for the Common Shares to be received upon exercise of the Option.

_____ _____
Date Optionee's Signature

SCHEDULE C
Form of Power of Attorney

The undersigned holder of Common Shares (the "**Common Shares**") in the capital of Turnstone Biologics Inc. (the "**Company**") hereby irrevocably appoints the Chief Executive Officer of the Company (or the most senior appointed officer of the Company) (the "**Attorney**"), from time to time, as the sole and exclusive attorney of the undersigned, with full power of substitution and resubstitution, to vote and exercise all voting, consent and similar rights of the undersigned, in a manner consistent with all resolutions passed, consents given or recommendations made by the Board of Directors of the Company, and/or sign any shareholder consents or amendments to the shareholders agreement, with respect to all of the Common Shares that now are or hereafter will be registered in the name of, and/or beneficially owned by, the undersigned, and any and all other shares or securities of the Company issued or issuable on or after the date hereof (collectively, the "**Shares**") in accordance with the terms of this Power of Attorney.

Upon the undersigned's execution of this Power of Attorney, any and all prior powers of attorney and proxies given by the undersigned with respect to any shares in the capital of the Company are hereby revoked and the undersigned agrees not to grant any subsequent powers of attorney or proxies with respect to the shares. This Power of Attorney may be exercised during any subsequent legal incapacity on the undersigned's part.

This Power of Attorney is coupled with an interest and is granted in consideration of the Company issuing to the undersigned Common Shares. The provisions of this Power of Attorney relating to the Common Shares shall apply, *mutatis mutandis*, to any shares or securities into which the Common Shares may be converted, exchanged, changed, reclassified, redesignated, subdivided or consolidated, any shares or securities which entitle the holder thereof to vote at any meeting of shareholders of the Company which may be distributed on the Common Shares as a stock dividend or otherwise and any shares or securities of the Company or of any successor corporation which may be received on or in respect of the Common Shares on a reorganization, amalgamation, consolidation or merger, statutory or otherwise.

This Power of Attorney shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein. The undersigned hereby agrees not to take any action that results in the termination of this Power of Attorney prior to the termination hereof. Any proxy executed and delivered pursuant hereto relating to any meeting of shareholders or any adjournments thereof shall revoke any proxy otherwise executed and delivered by or on behalf of the undersigned with respect to such meeting or any adjournments thereof, regardless of the respective dates thereof.

The undersigned hereby agrees that the Attorney will have no liability or responsibility whatsoever by reason of any loss or damage to the undersigned arising out of or in consequence of any mistake or error of law or fact on any matter or thing done or omitted to be done in connection with the exercise of the rights as contemplated by this Power of Attorney.

Any obligation of the undersigned hereunder shall be binding upon the heirs, executors, administrators, successors and assigns of the undersigned.

This Power of Attorney shall terminate, and be of no further force and effect, upon the earlier of: (i) the undersigned ceasing to be a security holder of the Company; and (ii) upon an Initial Public Offering (as defined in the Company's Amended and Restated Equity Incentive Plan dated October 1, 2016) by the Company.

DATED the __ day of _____, 20__.

In the presence of:

_____	_____
Witness	Optionee's Signature

TURNSTONE BIOLOGICS CORP.

2018 EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD OF DIRECTORS: DECEMBER 14, 2018
APPROVED BY THE STOCKHOLDERS: DECEMBER 14, 2018
EFFECTIVE DATE: DECEMBER 14, 2018
IPO DATE:

1. GENERAL.

(a) Successor to and Continuation of Prior Plan. The Plan is intended as the successor to and continuation of the Turnstone Biologics Inc. Amended and Restated Equity Incentive Plan, dated October 1, 2016, (the "***Prior Plan***"). From and after 12:01 a.m. Eastern time on the Effective Date, no additional awards will be granted under the Prior Plan. All Awards granted on or after 12:01 a.m. Eastern Time on the Effective Date will be granted under this Plan. All awards granted under the Prior Plan will remain subject to the terms of the Prior Plan.

(i) Any shares that would otherwise remain available for future grants under the Prior Plan as of 12:01 a.m. Eastern Time on the Effective Date (the "***Prior Plan's Available Reserve***") will cease to be available under the Prior Plan at such time. Instead, that number of shares of Common Stock equal to the Prior Plan's Available Reserve will be added to the Share Reserve (as further described in Section 3(a) below) and will be immediately available for grants and issuance pursuant to Stock Awards hereunder, up to the maximum number set forth in Section 3(a) below.

(ii) In addition, from and after 12:01 a.m. Eastern time on the Effective Date, any shares subject, at such time, to outstanding stock awards granted under the Prior Plan that (x) expire or terminate for any reason prior to exercise or settlement; (y) are forfeited because of the failure to meet a contingency or condition required to vest such shares or otherwise return to the Company; or (z) are reacquired, withheld (or not issued) to satisfy a tax withholding obligation in connection with an award or to satisfy the purchase price or exercise price of a stock award (such shares the "***Returning Shares***") will immediately be added to the Share Reserve (as further described in Section 3(a) below) as and when such shares become Returning Shares, up to the maximum number set forth in Section 3(a) below.

(b) Eligible Award Recipients. Employees, Directors and Consultants are eligible to receive Awards.

(c) Available Awards. The Plan provides for the grant of the following Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Stock Appreciation Rights, (iv) Restricted Stock Awards, (v) Restricted Stock Unit Awards, (vi) Performance Stock Awards, (vii) Performance Cash Awards, and (viii) Other Stock Awards.

(d) Purpose. The Plan, through the grant of Awards, is intended to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate, and provide a means by which the eligible recipients may benefit from increases in value of the Common Stock.

2. ADMINISTRATION.

(a) Administration by Board. The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) Powers of Board. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine: (A) who will be granted Awards; (B) when and how each Award will be granted; (C) what type of Award will be granted; (D) the provisions of each Award (which need not be identical), including when a person will be permitted to exercise or otherwise receive cash or Common Stock under the Award; (E) the number of shares of Common Stock subject to, or the cash value of, an Award; and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement or in the written terms of a Performance Cash Award, in a manner and to the extent it will deem necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which an Award may be exercised or vest (or the time at which cash or shares of Common Stock may be issued in settlement thereof).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or an Award Agreement, suspension or termination of the Plan will not materially impair a Participant's rights under the Participant's then-outstanding Award without the Participant's written consent, except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, by adopting amendments relating to Incentive Stock Options and certain nonqualified deferred compensation under Section 409A of the Code and/or bringing the Plan or Awards granted under the Plan into compliance with the requirements for Incentive Stock Options or ensuring that they are exempt from, or compliant with, the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. If required by applicable law or listing requirements, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Awards available for issuance under the Plan. Except as otherwise provided in the Plan or an Award Agreement, no amendment of the Plan will materially impair a Participant's rights under an outstanding Award without the Participant's written consent.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of (A) Section 422 of the Code regarding "incentive stock options" or (B) Rule 16b-3.

(viii) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; provided, however, that a Participant's rights under any Award will not be impaired by any such amendment unless (A) the Company requests the consent of the affected Participant, and (B) such Participant consents in writing. Notwithstanding the foregoing, (1) a Participant's rights will not be deemed to have been impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights, and (2) subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Awards without the affected Participant's consent (A) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (C) to clarify the manner of exemption from, or to bring the Award into compliance with, Section 409A of the Code; or (D) to comply with other applicable laws or listing requirements.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Awards.

(x) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

(xi) To effect, with the consent of any adversely affected Participant, (A) the reduction of the exercise, purchase or strike price of any outstanding Stock Award; (B) the cancellation of any outstanding Stock Award and the grant in substitution therefor of a new (1) Option or SAR, (2) Restricted Stock Award, (3) Restricted Stock Unit Award, (4) Other Stock Award, (5) cash and/or (6) other valuable consideration determined by the Board, in its sole discretion, with any such substituted award (x) covering the same or a different number of shares of Common Stock as the cancelled Stock Award and (y) granted under the Plan or another equity or compensatory plan of the Company; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

(c) Delegation to Committee.

(i) General. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be construed as being to the Committee or subcommittee, as applicable). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(ii) Rule 16b-3 Compliance. From and after the IPO Date, the Committee may consist solely of two or more Non-Employee Directors in accordance with Rule 16b-3.

(d) Delegation to an Officer. The Board may delegate to one (1) or more Officers the authority to do one or both of the following (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Awards, and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; *provided*, *however*, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided in the resolutions approving the delegation authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value.

(e) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve. Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards will not exceed 11,489,134 shares (the "***Share Reserve***"), which number is the sum of (i) the 4,686,303 shares subject to the Prior Plan's Available Reserve, plus (iii) the Returning Shares, up to a maximum of 6,802,831 shares, as such shares become available from time to time.

For clarity, the Share Reserve in this Section 3(a) is a limitation on the number of shares of Common Stock that may be issued pursuant to the Plan. Accordingly, this Section 3(a) does not limit the granting of Stock Awards except as provided in Section 7(a). To the extent applicable, shares may be issued in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c) or, if applicable, NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(b) Reversion of Shares to the Share Reserve. If a Stock Award or any portion thereof (i) expires or otherwise terminates without all of the shares covered by such Stock Award having been issued or (ii) is settled in cash (i.e., the Participant receives cash rather than stock), such expiration, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that may be available for issuance under the Plan. If any shares of Common Stock issued pursuant to a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited or repurchased will revert to and again become available for issuance under the Plan. Any shares reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award or as consideration for the exercise or purchase price of a Stock Award will again become available for issuance under the Plan.

(c) Incentive Stock Option Limit. Subject to the provisions of Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options will be 35,000,000 shares of Common Stock.

(d) Source of Shares. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

4. ELIGIBILITY.

(a) Eligibility for Specific Stock Awards. Incentive Stock Options may be granted only to employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; *provided*, *however*, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any "parent" of the Company, as such term is defined in Rule 405 of the Securities Act, unless (i) the stock underlying such Stock Awards is treated as "service recipient stock" under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction), (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from Section 409A of the Code, or (iii) the Company, in consultation with its legal counsel, has determined that such Stock Awards comply with the distribution requirements of Section 409A of the Code.

(b) Ten Percent Stockholders. A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least 1 10% of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five years from the date of grant.

5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; *provided*, *however*, that each Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(a) Term. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten years from the date of its grant or such shorter period specified in the Award Agreement.

(b) Exercise Price. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value of the Common Stock subject to the Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

(c) Purchase Price for Options. The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

(i) by cash, check, bank draft or money order payable to the Company;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) if an Option is a Nonstatutory Stock Option, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; *provided*, *however*, that the Company will accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the "net exercise," (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations; or

(v) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Award Agreement.

(d) Exercise and Payment of a SAR. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR, and with respect to which the Participant is exercising the SAR on such date, over (B) the aggregate strike price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Award Agreement evidencing such SAR.

(e) Transferability of Options and SARs. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) Restrictions on Transfer. An Option or SAR will not be transferable except by will or by the laws of descent and distribution (or pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided in the Plan, neither an Option nor a SAR may be transferred for consideration.

(ii) Domestic Relations Orders. Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulations Section 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(iii) Beneficiary Designation. Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, on the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, upon the death of the Participant, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) Vesting Generally. The total number of shares of Common Stock subject to an Option or SAR may vest and become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of Performance Goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary. The provisions of this Section 5(f) are subject to any Option or SAR provisions governing the minimum number of shares of Common Stock as to which an Option or SAR may be exercised.

(g) Termination of Continuous Service. Except as otherwise provided in the applicable Award Agreement or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date that is 90 days following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the applicable Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR (as applicable) within the applicable time frame, the Option or SAR will terminate.

(h) Extension of Termination Date. If the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of time (that need not be consecutive) equal to the applicable post termination exercise period after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. In addition, unless otherwise provided in a Participant's Award Agreement, if the sale of any Common Stock received on exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of months (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement.

(i) Disability of Participant. Except as otherwise provided in the applicable Award Agreement or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date 12 months following such termination of Continuous Service (or such longer or shorter period specified in the Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) Death of Participant. Except as otherwise provided in the applicable Award Agreement or other agreement between the Participant and the Company, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the Award Agreement for exercisability after the termination of the Participant's Continuous Service for a reason other than death, then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date 18 months following the date of death (or such longer or shorter period specified in the Award Agreement), and (ii) the expiration of the term of such Option or SAR as set forth in the Award Agreement. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR (as applicable) will terminate.

(k) Termination for Cause. Except as explicitly provided otherwise in a Participant's Award Agreement or other individual written agreement between the Company and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate immediately upon such Participant's termination of Continuous Service, and the Participant will be prohibited from exercising his or her Option or SAR from and after the time of such termination of Continuous Service.

(l) Non-Exempt Employees. If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least six months following the date of grant of the Option or SAR (although the Award may vest prior to such date). Consistent with the provisions of the Worker Economic Opportunity Act, (i) if such non-exempt Employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's retirement (as such term may be defined in the Participant's Award Agreement in another agreement between the Participant and the Company, or, if no such definition, in accordance with the Company's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than six months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the Worker Economic Opportunity Act to ensure that any income derived by a non-exempt employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from the employee's regular rate of pay, the provisions of this Section 5(l) will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

(m) Right of Repurchase. The Option or SAR may include a provision whereby the Company may elect to repurchase all or any part of the shares of Common Stock acquired by the Participant pursuant to the exercise of the Option or SAR.

6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS.

(a) Restricted Stock Awards. Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board will deem appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock may be (x) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse; or (y) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past or future services to the Company or an Affiliate, or (C) any other form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. Shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

(iii) Termination of Participant's Continuous Service. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

(iv) Transferability. Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(v) Dividends. A Restricted Stock Award Agreement may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares subject to the Restricted Stock Award to which they relate.

(vi) Right of Repurchase. The Restricted Stock Award Agreement may include a provision whereby the Company may elect to repurchase all or any part of the shares of Common Stock acquired by the Participant pursuant to the Restricted Stock Award.

(b) Restricted Stock Unit Awards. Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board will deem appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

(iii) Payment. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

(iv) Additional Restrictions. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) Dividend Equivalents. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and contained in the Restricted Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Agreement to which they relate.

(vi) Termination of Participant's Continuous Service. Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(c) Performance Awards.

(i) Performance Stock Awards. A Performance Stock Award is a Stock Award that is payable (including that may be granted, may vest or may be exercised) contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Stock Award may, but need not, require the Participant's completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Board or Committee, in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Award Agreement, the Board (or Committee, as the case may be) may determine that cash may be used in payment of Performance Stock Awards.

(ii) Performance Cash Awards. A Performance Cash Award is a cash award that is payable contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Cash Award may also require the completion of a specified period of Continuous Service. At the time of grant of a Performance Cash Award, the length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Board or Committee, in its sole discretion. The Board (or Committee, as the case may be) may specify the form of payment of Performance Cash Awards, which may be cash or other property, or may provide for a Participant to have the option for his or her Performance Cash Award, or such portion thereof as the Board (or Committee, as the case may be) may specify, to be paid in whole or in part in cash or other property.

(iii) Board Discretion. The Board (or Committee, as the case may be) retains the discretion to adjust or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for a Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement or the written terms of a Performance Cash Award.

(d) Other Stock Awards. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (e.g., options or stock rights with an exercise price or strike price less than 100% of the Fair Market Value of the Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

7. COVENANTS OF THE COMPANY.

(a) Availability of Shares. The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Awards.

(b) Securities Law Compliance. The Company will seek to obtain from each regulatory commission or agency, as necessary, such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise or vesting of the Stock Awards; provided, however, that this undertaking will not require the Company to register under the Securities Act or other securities or applicable laws, the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary or advisable for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise or vesting of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of an Award or the subsequent issuance of cash or Common Stock pursuant to the Award if such grant or issuance would be in violation of any applicable law.

(c) No Obligation to Notify or Minimize Taxes. The Company will have no duty or obligation to any Participant to advise such holder as to the tax treatment or time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of an Award or a possible period in which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award.

8. MISCELLANEOUS.

(a) Use of Proceeds from Sales of Common Stock. Proceeds from the sale of shares of Common Stock pursuant to Awards will constitute general funds of the Company.

(b) Corporate Action Constituting Grant of Awards. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event

that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement or related grant documents as a result of a clerical error in the papering of the Award Agreement or related grant documents, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement or related grant documents.

(c) Stockholder Rights. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to an Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Award pursuant to its terms, and (ii) the issuance of the Common Stock subject to such Award has been entered into the books and records of the Company.

(d) No Employment or Other Service Rights. Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state or foreign jurisdiction in which the Company or the Affiliate is domiciled or incorporated, as the case may be.

(e) Change in Time Commitment. In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence) after the date of grant of any Award to the Participant, the Board has the right in its sole discretion to (x) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (y) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Award that is so reduced or extended.

(f) Incentive Stock Option Limitations. To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(g) Investment Assurances. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that such Participant is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Award for the Participant's own account and not with any present intention of selling or

otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (A) the issuance of the shares upon the exercise or acquisition of Common Stock under the Award has been registered under a then currently effective registration statement under the Securities Act, or (B) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(h) Withholding Obligations. Unless prohibited by the terms of an Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to an Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award; *provided*, *however*, that no shares of Common Stock are withheld with a value exceeding the maximum amount of tax required to be withheld by law (or such lesser amount as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Award Agreement.

(i) Electronic Delivery. Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto) or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

(j) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(k) Compliance with Section 409A of the Code. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A of the Code, and, to the extent not so exempt, in compliance with Section 409A of the Code. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A of the Code, the Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Agreement. Notwithstanding anything to the contrary in this Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A of the Code is a "specified employee" for purposes of Section 409A of the Code, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A of the Code without regard to alternative definitions thereunder) will be issued or paid before the date that is six months following the date of such

Participant's "separation from service" (as defined in Section 409A of the Code without regard to alternative definitions thereunder) or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A of the Code, and any amounts so deferred will be paid in a lump sum on the day after such six month period elapses, with the balance paid thereafter on the original schedule.

(l) Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including but not limited to a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of an event constituting Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for "good reason" or "constructive termination" (or similar term) under any agreement with the Company.

9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) of securities by which the share reserve is to increase automatically each year pursuant to Section 3(a), (iii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c) and (iv) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) Dissolution. Except as otherwise provided in the Stock Award Agreement, in the event of a Dissolution of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such Dissolution, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service; provided, however, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the Dissolution is completed but contingent on its completion.

(c) Transaction. The following provisions shall apply to Stock Awards in the event of a Transaction unless otherwise provided in the instrument evidencing the Stock Award or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of a Stock Award. In the event of a Transaction, then, notwithstanding any other provision of the Plan, the Board shall take one or more of the following actions with respect to Stock Awards, contingent upon the closing or completion of the Transaction:

(i) arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the Stock Award or to substitute a similar stock award for the Stock Award (including, but not limited to, an award to acquire the same consideration paid to the stockholders of the Company pursuant to the Transaction);

(ii) arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to the Stock Award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

(iii) accelerate the vesting, in whole or in part, of the Stock Award (and, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five days prior to the effective date of the Transaction), with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Transaction;

(iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to the Stock Award;

(v) suspend the exercise of the Stock Awards, prior to the effective time of the Transaction, for such period as the Board determines is necessary to facilitate the negotiation and consummation of the Transaction;

(vi) cancel or arrange for the cancellation of the Stock Award, to the extent not vested and/or not exercised prior to the effective time of the Transaction, in exchange for such cash consideration, if any, as the Board, in its sole discretion, may consider appropriate; and

(vii) make a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Transaction, over (B) any exercise price payable by such holder in connection with such exercise. For clarity, this payment may be zero ($0) if the value of the property is equal to or less than the exercise price. Payments under this provision may be delayed to the same extent that payment of consideration to the holders of the Company's Common Stock in connection with the Transaction is delayed as a result of escrows, earn outs, holdbacks or any other contingencies, and the Board, in its sole discretion, may condition a Participant's right to receive such payment upon the Participant's delivery of an agreement (x) acknowledging such escrows, earn outs, holdbacks or other contingencies, (y) appointing a representative to act on the Participant's behalf following the Transaction with respect to matters relating to the Transaction, and/or (z) agreeing to or acknowledging any indemnification or other agreements or obligations required of recipients of proceeds pursuant to the Transaction.

The Board need not take the same action or actions with respect to all Stock Awards or portions thereof or with respect to all Participants. The Board may take different actions with respect to the vested and unvested portions of a Stock Award.

(d) Change in Control. A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant.

10. PLAN TERM; EARLIER TERMINATION OR SUSPENSION OF THE PLAN.

The Board may suspend or terminate the Plan at any time. No Incentive Stock Options may be granted after the tenth anniversary of the earlier of (i) the date the Plan is adopted by the Board (the "***Effective Date***"), or (ii) the date the Plan is approved by the stockholders of the Company. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

11. EXISTENCE OF THE PLAN; TIMING OF FIRST GRANT OR EXERCISE.

The Plan will come into existence and become effective on the Effective Date. In addition, no Stock Award will be exercised (or, in the case of a Restricted Stock Award, Restricted Stock Unit Award, Performance Stock Award, or Other Stock Award, no Stock Award will be granted) and no Performance Cash Award will be settled unless and until the Plan has been approved by the stockholders of the Company, which approval will be within 12 months after the date the Effective Date.

12. CHOICE OF LAW.

The law of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

13. DEFINITIONS. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "***Affiliate***" means, at the time of determination, any "parent" or "subsidiary" of the Company as such terms are defined in Rule 405 of the Securities Act. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(b) "***Award***" means a Stock Award or a Performance Cash Award.

(c) "***Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of an Award.

(d) "***Board***" means the Board of Directors of the Company.

(e) "***Capital Stock***" means each and every class of common stock of the Company, regardless of the number of votes per share.

(f) "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(g) "***Cause***" shall have the meaning ascribed to such term in any written agreement between the Participant and the Company defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) such Participant's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) such Participant's attempted commission of, or participation in, a fraud or act of dishonesty against the Company; (iii) such Participant's intentional, material violation of any contract or agreement between the Participant and the Company or of any statutory duty owed to the Company; (iv) such Participant's unauthorized use or disclosure of the Company's confidential information or trade secrets; or (v) such Participant's gross misconduct. The determination that a termination of the Participant's Continuous Service is either for Cause or without Cause shall be made by the Company, in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause

for the purposes of outstanding Awards held by such Participant shall have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(h) "***Change in Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities, (C) on account of the acquisition of securities of the Company by any individual who is, on the IPO Date, either an executive officer or a Director (either, an "***IPO Investor***") and/or any entity in which an IPO Investor has a direct or indirect interest (whether in the form of voting rights or participation in profits or capital contributions) of more than 50% (collectively, the "***IPO Entities***") or on account of the IPO Entities continuing to hold shares that come to represent more than 50% of the combined voting power of the Company's then outstanding securities as a result of the conversion of any class of the Company's securities into another class of the Company's securities having a different number of votes per share pursuant to the conversion provisions set forth in the Company's Amended and Restated Certificate of Incorporation; or (D) solely because the level of Ownership held by any Exchange Act Person (the "***Subject Person***") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction; *provided*, *however*, that a merger, consolidation or similar transaction will not constitute a Change in Control under this prong of the definition if the outstanding voting securities representing more than 50% of the combined voting power of the surviving Entity or its parent are owned by the IPO Entities;

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than 50% of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; *provided*, *however*, that a sale, lease, exclusive license or other disposition of all or substantially all of the

consolidated assets of the Company and its Subsidiaries will not constitute a Change in Control under this prong of the definition if the outstanding voting securities representing more than 50% of the combined voting power of the acquiring Entity or its parent are owned by the IPO Entities;

(iv) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company will otherwise occur, except for a liquidation into a parent corporation; or

(v) individuals who, on the date the Plan is adopted by the Board, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board; *provided*, *however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of the Plan, the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company and the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Awards subject to such agreement; provided, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

(i) "***Code***" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(j) "***Committee***" means a committee of one or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(k) "***Common Stock***" means the common stock of the Company, having one vote per share.

(l) "***Company***" means Turnstone Biologics, Corp., a Delaware corporation.

(m) "***Consultant***" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "***Consultant***" for purposes of the Plan.

(n) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service; *provided*, *however*, that if the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board, in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other

personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in an Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(o) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board, in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of more than 50% of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(p) "***Director***" means a member of the Board.

(q) "***Disability***" means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months, as provided in Sections 22(e)(3) and 409A(a)(2)(c)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(r) "***Dissolution***" means when the Company, after having executed a certificate of dissolution with the State of Delaware (or other applicable state), has completely wound up its affairs. Conversion of the Company into a Limited Liability Company (or any other pass-through entity) will not be considered a "***Dissolution***" for purposes of the Plan.

(s) "***Employee***" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "***Employee***" for purposes of the Plan.

(t) "***Entity***" means a corporation, partnership, limited liability company or other entity.

(u) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(v) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "***Exchange Act Person***" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned,

directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities.

(w) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(x) "***Incentive Stock Option***" means an option granted pursuant to Section 5 of the Plan that is intended to be, and qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(y) "***IPO Date***" means the date of the underwriting agreement between the Company and the underwriter(s) managing the initial public offering of the Common Stock, pursuant to which the Common Stock is priced for the initial public offering.

(z) "***Non-Employee Director***" means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("***Regulation S -K***")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(aa) "***Nonstatutory Stock Option***" means any Option granted pursuant to Section 5 of the Plan that does not qualify as an Incentive Stock Option.

(bb) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(cc) "***Option***" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(dd) "***Option Agreement***" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(ee) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(ff) "***Other Stock Award***" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(d).

(gg) "***Other Stock Award Agreement***" means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

(hh) "***Own,***" "***Owned,***" "***Owner,***" "***Ownership***" means a person or Entity will be deemed to "***Own,***" to have "***Owned,***" to be the "***Owner***" of, or to have acquired "***Ownership***" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(ii) "***Participant***" means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(jj) "***Performance Cash Award***" means an award of cash granted pursuant to the terms and conditions of Section 6(c)(ii).

(kk) "***Performance Criteria***" means the one or more criteria that the Board or Committee (as applicable) will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Board: (i) sales; (ii) revenues; (iii) assets; (iv) expenses; (v) market penetration or expansion; (vi) earnings from operations; (vii) earnings before or after deduction for all or any portion of interest, taxes, depreciation, amortization, incentives, service fees or extraordinary or special items, whether or not on a continuing operations or an aggregate or per share basis; (viii) net income or net income per common share (basic or diluted); (ix) return on equity, investment, capital or assets; (x) one or more operating ratios; (xi) borrowing levels, leverage ratios or credit rating; (xii) market share; (xiii) capital expenditures; (xiv) cash flow, free cash flow, cash flow return on investment, or net cash provided by operations; (xv) stock price, dividends or total stockholder return; (xvi) development of new technologies or products; (xvii) sales of particular products or services; (xviii) economic value created or added; (xix) operating margin or profit margin; (xx) customer acquisition or retention; (xxi) raising or refinancing of capital; (xxii) successful hiring of key individuals; (xxiii) resolution of significant litigation; (xxiv) acquisitions and divestitures (in whole or in part); (xxv) joint ventures and strategic alliances; (xxvi) spin-offs, split-ups and the like; (xxvii) reorganizations; (xxviii) recapitalizations, restructurings, financings (issuance of debt or equity) or refinancings; (xxix) or strategic business criteria, consisting of one or more objectives based on the following goals: achievement of timely development, design management or enrollment, meeting specified market penetration or value added, payor acceptance, patient adherence, peer reviewed publications, issuance of new patents, establishment of or securing of licenses to intellectual property, product development or introduction (including, without limitation, any clinical trial accomplishments, regulatory or other filings, approvals or milestones, discovery of novel products, maintenance of multiple products in pipeline, product launch or other product development milestones), geographic business expansion, cost targets, cost reductions or savings, customer satisfaction, operating efficiency, acquisition or retention, employee satisfaction, information technology, corporate development (including, without limitation, licenses, innovation, research or establishment of

third party collaborations), manufacturing or process development, legal compliance or risk reduction, patent application or issuance goals, or goals relating to acquisitions, divestitures or other business combinations (in whole or in part), joint ventures or strategic alliances; and (xxx) other measures of performance selected by the Board or Committee.

(ll) "***Performance Goals***" means, for a Performance Period, the one or more goals established by the Board or Committee (as applicable) for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Board (i) in the Award Agreement at the time the Award is granted or (ii) in such other document setting forth the Performance Goals at the time the Performance Goals are established, the Board will appropriately make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of any items that are unusual in nature or occur infrequently as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; and (12) to exclude the effect of any other unusual, non-recurring gain or loss or other extraordinary item. In addition, the Board or Committee (as applicable) retains the discretion to adjust or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for such Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement or the written terms of a Performance Cash Award.

(mm) "***Performance Period***" means the period of time selected by the Board or Committee (as applicable) over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to and the payment of a Stock Award or a Performance Cash Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board or Committee.

(nn) "***Performance Stock Award***" means a Stock Award granted under the terms and conditions of Section 6(c)(i).

(oo) "***Plan***" means this Turnstone Biologics Corp. 2018 Equity Incentive Plan.

(pp) "***Restricted Stock Award***" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

(qq) "***Restricted Stock Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(rr) "***Restricted Stock Unit Award***" means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(b).

(ss) "***Restricted Stock Unit Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

(tt) "***Rule 16b-3***" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(uu) "***Securities Act***" means the Securities Act of 1933, as amended.

(vv) "***Stock Appreciation Right***" or "***SAR***" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

(ww) "***Stock Appreciation Right Agreement***" means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

(xx) "***Stock Award***" means any right to receive Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right, a Performance Stock Award or any Other Stock Award.

(yy) "***Stock Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

(zz) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

(aaa) "***Ten Percent Stockholder***" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate.

(bbb) "***Transaction***" means a Corporate Transaction or a Change in Control.

TURNSTONE BIOLOGICS CORP.

STOCK OPTION GRANT NOTICE
(2018 EQUITY INCENTIVE PLAN)

Turnstone Biologics Corp. (the "***Company***"), pursuant to its 2018 Equity Incentive Plan (the "***Plan***"), hereby grants to Optionholder an option to purchase the number of shares of the Company's Common Stock set forth below. This option is subject to all of the terms and conditions as set forth in this Stock Option Grant Notice, in the Option Agreement, the Plan and the Notice of Exercise, all of which are attached hereto and incorporated herein in their entirety. Capitalized terms not explicitly defined herein but defined in the Plan or the Option Agreement will have the same definitions as in the Plan or the Option Agreement. If there is any conflict between the terms in this Stock Option Grant Notice and the Plan, the terms of the Plan will control.

Optionholder:	_____
Date of Grant:	_____
Vesting Commencement Date:	_____
Number of Shares Subject to Option:	_____
Exercise Price (Per Share):	_____
Total Exercise Price:	_____
Expiration Date:	_____

Type of Grant: ☐ Incentive Stock Option[1] ☐ Nonstatutory Stock Option

Exercise Schedule: Same as Vesting Schedule

Vesting Schedule: **[**_____, subject to Optionholder's Continuous Service as of each such date**]**

Payment: By one or a combination of the following items (described in the Option Agreement):

☐ By cash, check, bank draft or money order payable to the Company

☐ Pursuant to a Regulation T Program if the shares are publicly traded

☐ By delivery of already-owned shares if the shares are publicly traded

☐ If and only to the extent this option is a Nonstatutory Stock Option, and subject to the Company's consent at the time of exercise, by a "net exercise" arrangement

[1] If this is an Incentive Stock Option, it (plus other outstanding Incentive Stock Options) cannot be first *exercisable* for more than $100,000 in value (measured by exercise price) in any calendar year. Any excess over $100,000 is a Nonstatutory Stock Option.

Additional Terms/Acknowledgements: Optionholder acknowledges receipt of, and understands and agrees to, this Stock Option Grant Notice, the Option Agreement and the Plan. Optionholder acknowledges and agrees that this Stock Option Grant Notice and the Option Agreement may not be modified, amended or revised except as provided in the Plan. Optionholder further acknowledges that as of the Date of Grant, this Stock Option Grant Notice, the Option Agreement, and the Plan set forth the entire understanding between Optionholder and the Company regarding this option award and supersede all prior oral and written agreements, promises and/or representations on that subject with the exception of, if applicable, (i) equity awards previously granted and delivered to Optionholder, (ii) any compensation recovery policy that is adopted by the Company or is otherwise required by applicable law, (iii) any written employment agreement, severance agreement, offer letter or other written agreement entered into between the Company and Participant specifying the terms that should govern this specific option, and (iv) the Voting Agreement (as defined below).

Effective as of the date hereof, Optionholder hereby agrees to be (or acknowledges that Optionholder already is) a "Stockholder" party under the Voting Agreement and the Right of First Refusal Agreement, with the same force and effect as if Optionholder were originally a party thereto, and to be bound by the terms and conditions thereof. Optionholder further agrees (or acknowledges) that any shares underlying Optionholder's stock option, and any other shares of capital stock or securities held by Optionholder now or after the date hereof, shall be bound by and subject to the terms of the Voting Agreement and the Right of First Refusal Agreement. Optionholder hereby acknowledges receipt of a copy of the Voting Agreement and the Right of First Refusal Agreement and that Optionholder has read and understands the terms and conditions thereof. "***Voting Agreement***" shall mean that certain Voting Agreement, dated as of December 21, 2018, by and among the Company and certain stockholders of the Company parties thereto, as the same may be amended, restated or otherwise modified from time to time. "***Right of First Refusal Agreement***" shall mean that certain Right of First Refusal and Co-Sale Agreement, dated as of December 21, 2018, by and among the Company and certain stockholders of the Company parties thereto, as the same may be amended, restated or otherwise modified from time to time.

By accepting this option, Optionholder consents to receive such documents by electronic delivery and to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

TURNSTONE BIOLOGICS CORP.		**OPTIONHOLDER:**	
By:	_____		_____
	Signature		Signature
Title:	_____		
Date:	_____	Date:	_____

ATTACHMENTS: Option Agreement, 2018 Equity Incentive Plan, Notice of Exercise, Voting Agreement and Right of First Refusal Agreement

ATTACHMENT I

TURNSTONE BIOLOGICS CORP.

OPTION AGREEMENT
(2018 EQUITY INCENTIVE PLAN)
(INCENTIVE STOCK OPTION OR NONSTATUTORY STOCK OPTION)

Pursuant to your Stock Option Grant Notice ("***Grant Notice***") and this Option Agreement, Turnstone Biologics Corp. (the "***Company***") has granted you an option under its 2018 Equity Incentive Plan (the "***Plan***") to purchase the number of shares of the Company's Common Stock indicated in your Grant Notice at the exercise price indicated in your Grant Notice. The option is granted to you effective as of the date of grant set forth in the Grant Notice (the "***Date of Grant***"). If there is any conflict between the terms in this Option Agreement and the Plan, the terms of the Plan will control. Capitalized terms not explicitly defined in this Option Agreement or in the Grant Notice but defined in the Plan will have the same definitions as in the Plan.

The details of your option, in addition to those set forth in the Grant Notice and the Plan, are as follows:

1. VESTING. Subject to the provisions contained herein, your option will vest as provided in your Grant Notice. Vesting will cease upon the termination of your Continuous Service.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share in your Grant Notice will be adjusted for Capitalization Adjustments.

3. EXERCISE RESTRICTION FOR NON-EXEMPT EMPLOYEES. If you are an Employee eligible for overtime compensation under the Fair Labor Standards Act of 1938, as amended (that is, a "***Non-Exempt Employee***"), and except as otherwise provided in the Plan, you may not exercise your option until you have completed at least six (6) months of Continuous Service measured from the Date of Grant, even if you have already been an employee for more than six (6) months. Consistent with the provisions of the Worker Economic Opportunity Act, you may exercise your option as to any vested portion prior to such six (6) month anniversary in the case of (i) your death or disability, (ii) a Corporate Transaction in which your option is not assumed, continued or substituted, (iii) a Change in Control or (iv) your termination of Continuous Service on your "retirement" (as defined in the Company's benefit plans).

4. METHOD OF PAYMENT. You must pay the full amount of the exercise price for the shares you wish to exercise. You may pay the exercise price in cash or by check, bank draft or money order payable to the Company or in any other manner ***permitted by your Grant Notice,*** which may include one or more of the following:

(a) Provided that at the time of exercise the Common Stock is publicly traded, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. This manner of payment is also known as a "broker-assisted exercise", "same day sale", or "sell to cover".

(b) Provided that at the time of exercise the Common Stock is publicly traded, by delivery to the Company (either by actual delivery or attestation) of already-owned shares of Common Stock that are owned free and clear of any liens, claims, encumbrances or security interests, and that are valued at Fair Market Value on the date of exercise. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, will include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. You may not exercise your option by delivery to the Company of Common Stock if doing so would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(c) If this option is a Nonstatutory Stock Option, subject to the consent of the Company at the time of exercise, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise of your option by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price. You must pay any remaining balance of the aggregate exercise price not satisfied by the "net exercise" in cash or other permitted form of payment. Shares of Common Stock will no longer be outstanding under your option and will not be exercisable thereafter if those shares (i) are used to pay the exercise price pursuant to the "net exercise," (ii) are delivered to you as a result of such exercise, and (iii) are withheld to satisfy your tax withholding obligations.

5. WHOLE SHARES. You may exercise your option only for whole shares of Common Stock.

6. SECURITIES LAW COMPLIANCE. In no event may you exercise your option unless the shares of Common Stock issuable upon exercise are then registered under the Securities Act or, if not registered, the Company has determined that your exercise and the issuance of the shares would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with all other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations (including any restrictions on exercise required for compliance with Treas. Reg. 1.401(k)-1(d)(3), if applicable).

7. TERM. You may not exercise your option before the Date of Grant or after the expiration of the option's term. The term of your option expires, subject to the provisions of Section 5(h) of the Plan, upon the earliest of the following:

(a) immediately upon the termination of your Continuous Service for Cause;

(b) three (3) months after the termination of your Continuous Service for any reason other than Cause, your Disability or your death (except as otherwise provided in Section 8(d) below); *provided, however,* that if during any part of such three (3) month period your option is not exercisable solely because of the condition set forth in the section above regarding "Securities Law Compliance," your option will not expire until the earlier of the Expiration Date or until it has been exercisable for an aggregate period of three (3) months after the termination of your Continuous Service; *provided further,* if during any part of such three (3) month period, the sale of any Common Stock received upon exercise of your option would violate the Company's insider trading policy, then your option will not expire until the earlier of the Expiration Date or until it has been exercisable for an aggregate period of three (3) months after the termination of your Continuous Service during which the sale of the Common Stock received upon exercise of your option would not be in violation of the Company's insider trading policy. Notwithstanding the foregoing, if (i) you are a Non-Exempt Employee, (ii) your Continuous Service terminates within six (6) months after the Date of Grant, and (iii) you have vested in a portion of your option at the time of your termination of Continuous Service, your option will not expire until the earlier of (x) the later of (A) the date that is seven (7) months after the Date of Grant, and (B) the date that is three (3) months after the termination of your Continuous Service, and (y) the Expiration Date;

(c) twelve (12) months after the termination of your Continuous Service due to your Disability (except as otherwise provided in Section 7(d)) below;

(d) eighteen (18) months after your death if you die either during your Continuous Service or within three (3) months after your Continuous Service terminates for any reason other than Cause;

(e) the Expiration Date indicated in your Grant Notice; or

(f) the day before the tenth (10th) anniversary of the Date of Grant.

If your option is an Incentive Stock Option, note that to obtain the federal income tax advantages associated with an Incentive Stock Option, the Code requires that at all times beginning on the Date of Grant and ending on the day three (3) months before the date of your option's exercise, you must be an employee of the Company or an Affiliate, except in the event of your death or Disability. The Company has provided for extended exercisability of your option under certain circumstances for your benefit but cannot guarantee that your option will necessarily be treated as an Incentive Stock Option if you continue to provide services to the Company or an Affiliate as a Consultant or Director after your employment terminates or if you otherwise exercise your option more than three (3) months after the date your employment with the Company or an Affiliate terminates.

8. EXERCISE.

(a) You may exercise the vested portion of your option (and the unvested portion of your option if your Grant Notice so permits) during its term by (i) delivering a Notice of Exercise (in a form designated by the Company) or completing such other documents and/or procedures designated by the Company for exercise and (ii) paying the exercise price and any applicable withholding taxes to the Company's Secretary, stock plan administrator, or such other person as the Company may designate, together with such additional documents as the Company may then require.

(b) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (i) the exercise of your option, (ii) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (iii) the disposition of shares of Common Stock acquired upon such exercise.

(c) If your option is an Incentive Stock Option, by exercising your option you agree that you will notify the Company in writing within fifteen (15) days after the date of any disposition of any of the shares of the Common Stock issued upon exercise of your option that occurs within two (2) years after the Date of Grant or within one (1) year after such shares of Common Stock are transferred upon exercise of your option.

9. TRANSFERABILITY. Except as otherwise provided in this Section 9, your option is not transferable, except by will or by the laws of descent and distribution, and is exercisable during your life only by you.

(a) Certain Trusts. Upon receiving written permission from the Board or its duly authorized designee, you may transfer your option to a trust if you are considered to be the sole beneficial owner (determined under Section 671 of the Code and applicable state law) while the option is held in the trust. You and the trustee must enter into transfer and other agreements required by the Company.

(b) Domestic Relations Orders. Upon receiving written permission from the Board or its duly authorized designee, and provided that you and the designated transferee enter into transfer and other agreements required by the Company, you may transfer your option pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulation 1.421-1(b)(2) that contains the information required by the Company to effectuate the transfer. You are encouraged to discuss the proposed terms of any division of this option with the Company prior to finalizing the domestic relations order or marital settlement agreement to help ensure the required information is contained within the domestic relations order or marital settlement agreement. If this option is an Incentive Stock Option, this option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(c) Beneficiary Designation. Upon receiving written permission from the Board or its duly authorized designee, you may, by delivering written notice to the Company, in a form approved by the Company and any broker designated by the Company to handle option exercises, designate a third party who, on your death, will thereafter be entitled to exercise this option and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, your executor or administrator of your estate will be entitled to exercise this option and receive, on behalf of your estate, the Common Stock or other consideration resulting from such exercise.

10. OPTION NOT A SERVICE CONTRACT. Your option is not an employment or service contract, and nothing in your option will be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option will obligate the Company or an Affiliate, their respective stockholders, boards of directors, officers or employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

11. WITHHOLDING OBLIGATIONS.

(a) At the time you exercise your option, in whole or in part, and at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "same day sale" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your option.

(b) If this option is a Nonstatutory Stock Option, then upon your request and subject to approval by the Company, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the maximum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid classification of your option as a liability for financial accounting purposes). Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(c) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company will have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein, if applicable, unless such obligations are satisfied.

12. TAX CONSEQUENCES. You hereby agree that the Company does not have a duty to design or administer the Plan or its other compensation programs in a manner that minimizes your tax liabilities. You will not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates related to tax liabilities arising from your option or your other compensation. In particular, you acknowledge that this option is exempt from Section 409A of the Code only if the exercise price per share specified in the Grant Notice is at least equal to the "fair market value" per share of the Common Stock on the Date of Grant and there is no other impermissible deferral of compensation associated with the option.

13. NOTICES. Any notices provided for in your option or the Plan will be given in writing (including electronically) and will be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company. The Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan and this option by electronic means or to request your consent to participate in the Plan by electronic means. By accepting this option, you consent to receive such documents by electronic delivery and to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

14. GOVERNING PLAN DOCUMENT. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. If there is any conflict between the provisions of your option and those of the Plan, the provisions of the Plan will control. In addition, your option (and any compensation paid or shares issued under your option) is subject to recoupment in accordance with The Dodd–Frank Wall Street Reform and Consumer Protection Act and any implementing regulations thereunder, any clawback policy adopted by the Company and any compensation recovery policy otherwise required by applicable law.

15. OTHER DOCUMENTS. You hereby acknowledge receipt of and the right to receive a document providing the information required by Rule 428(b)(1) promulgated under the Securities Act, which includes the Plan prospectus. In addition, you acknowledge receipt of the Company's policy permitting certain individuals to sell shares only during certain "window" periods and the Company's insider trading policy, in effect from time to time.

16. EFFECT ON OTHER EMPLOYEE BENEFIT PLANS. The value of this option will not be included as compensation, earnings, salaries, or other similar terms used when calculating your benefits under any employee benefit plan sponsored by the Company or any Affiliate, except as such plan otherwise expressly provides. The Company expressly reserves its rights to amend, modify, or terminate any of the Company's or any Affiliate's employee benefit plans.

17. VOTING RIGHTS. You will not have voting or any other rights as a stockholder of the Company with respect to the shares to be issued pursuant to this option until such shares are issued to you. Upon such issuance, you will obtain full voting and other rights as a stockholder of the Company. Nothing contained in this option, and no action taken pursuant to its provisions, will create or be construed to create a trust of any kind or a fiduciary relationship between you and the Company or any other person.

18. RIGHT OF REPURCHASE. In addition to any repurchase or other similar rights or obligations set forth in the Right of First Refusal Agreement, the Company will have the right (but not the obligation) to reacquire some or all of the shares of Common Stock you acquire upon exercise of your Option if your Continuous Service is terminated for Cause or, following the termination of your Continuous Service, the Company determines that grounds for a termination for Cause existed as of the date your Continuous Service terminated and/or you breach any provision of any agreement between you and the Company containing confidentiality, non-competition, non-solicitation and/or other similar restrictive covenants. The per share repurchase price hereunder shall be the lower of Fair Market Value and the Exercise Price set forth in the Grant Notice. Such repurchase right may be exercised within (i) the one year period following the later of (x) your exercise of the option and acquisition of the shares of Common Stock and (y) the termination of your Continuous Service or (ii) such longer period as may be agreed to by the Company and you. The Company will give you written notice of its intent to exercise this repurchase right (accompanied by payment for the vested shares of Common Stock) within the applicable period. The Company may also assign this repurchase right. The Company or its assigns may, at their election, pay for the repurchased shares in (A) cash, (B) by cancellation of any indebtedness you owe to the Company at such time or (C) through the issuance of a promissory note with an initial principal amount equal to the purchase price of such repurchased shares of Common Stock (or any combination of (A), (B) and (C)).

(a) In the event there is any change in the character or amount of any of the shares of Common Stock that are subject to the provisions of this Option Agreement, then in such event any and all new, substituted or additional shares or securities to which you become entitled by reason of your ownership of shares of Common Stock that are subject to the provisions of this Option Agreement will continue to be subject to the provisions of this Section 18 with the same force and effect.

19. SEVERABILITY. If all or any part of this Option Agreement or the Plan is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity will not invalidate any portion of this Option Agreement or the Plan not declared to be unlawful or invalid. Any Section of this Option Agreement (or part of such a Section) so declared to be unlawful or invalid shall, if possible, be construed in a manner which will give effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

20. MISCELLANEOUS.

(a) The rights and obligations of the Company under your option will be transferable to any one or more persons or entities, and all covenants and agreements hereunder will inure to the benefit of, and be enforceable by the Company's successors and assigns.

(b) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of your option.

(c) You acknowledge and agree that you have reviewed your option in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting your option, and fully understand all provisions of your option.

(d) This Option Agreement will be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required.

(e) All obligations of the Company under the Plan and this Option Agreement will be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

* * *

This Option Agreement will be deemed to be signed by you upon the signing by you of the Stock Option Grant Notice to which it is attached.

ATTACHMENT II

2018 EQUITY INCENTIVE PLAN

ATTACHMENT III

NOTICE OF EXERCISE

TURNSTONE BIOLOGICS CORP.

Date of Exercise: _____

This constitutes notice to Turnstone Biologics Corp. (the "***Company***") under my stock option that I elect to purchase the below number of shares of Common Stock of the Company (the "***Shares***") for the price set forth below.

Type of option (check one):	Incentive ☐	Nonstatutory ☐
Stock option dated:	_____	_____
Number of Shares as to which option is exercised:	_____	_____
Certificates to be issued in name of:	_____	_____
Total exercise price:	$_____	$_____
Cash payment delivered herewith:	$_____	$_____
[Value of _____ Shares delivered herewith[2]:	$_____	$_____]
[Value of _____ Shares pursuant to net exercise[3]:	$_____	$_____]
[Regulation T Program (cashless exercise[4]):	$_____	$_____]

2 Shares must meet the public trading requirements set forth in the option. Shares must be valued in accordance with the terms of the option being exercised, and must be owned free and clear of any liens, claims, encumbrances or security interests. Certificates must be endorsed or accompanied by an executed assignment separate from certificate.

3 The option must be a Nonstatutory Stock Option, and the Company must have established net exercise procedures at the time of exercise, in order to utilize this payment method.

4 Shares must meet the public trading requirements set forth in the option.

By this exercise, I agree (i) to provide such additional documents as you may require pursuant to the terms of the Turnstone Biologics Corp. 2018 Equity Incentive Plan, (ii) to provide for the payment by me to you (in the manner designated by you) of your withholding obligation, if any, relating to the exercise of this option, and (iii) if this exercise relates to an incentive stock option, to notify you in writing within fifteen (15) days after the date of any disposition of any of the Shares issued upon exercise of this option that occurs within two (2) years after the date of grant of this option or within one (1) year after such Shares are issued upon exercise of this option.

Very truly yours,

_____

ATTACHMENT IV

VOTING AGREEMENT

ATTACHMENT V

RIGHT OF FIRST REFUSAL AGREEMENT

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

AMENDED AND RESTATED MASTER COLLABORATION AGREEMENT

THIS AMENDED AND RESTATED MASTER COLLABORATION AGREEMENT (this "Agreement) is entered into on January 1st, 2021 (hereinafter "Effective Date) by and between H. Lee Moffitt Cancer Center and Research Institute, Inc. a non-profit Florida corporation organized pursuant to Section 1004.43, Florida Statutes, whose address is 12902 Magnolia Drive Tampa, Florida 33612 ("Moffitt") and Turnstone Biologics Corp., a corporation duly organized under the laws of Delaware whose address is 920 Broadway, 16th Floor, New York, NY 10010 (hereinafter "Company"). Moffitt and Company are hereinafter referred to individually as "Party" and collectively as "Parties."

WHEREAS, Company, a privately held clinical stage biotech company, is developing breakthrough cancer immunotherapies by advancing two leading and complementary platforms (Oncolytic virus technology platform and TIL cell therapy technology platform) that drive innate and adaptive tumor immunity, to provide benefit to the millions of cancer patients underserved by current treatment options; and

WHEREAS, Moffitt is a National Cancer Institute designated comprehensive cancer center, a statewide research institute, and a national resource for basic science, clinical research, and interdisciplinary approaches to research and patient treatment; and

WHEREAS, Moffitt and Myst Therapeutics, Inc. entered into that certain original Master Collaboration Agreement and executed two SOWs on November 25, 2019 and duly amended said agreement on March 20, 2020 (collectively the "Original MCA") to collaborate in the performance of, with financial support from Myst Therapeutics, Inc. for certain research projects; and

WHEREAS, As a result of a merger and reorganization on December 14, 2020, the Company has acquired Myst Therapeutics, Inc. and become the sole stockholder of the surviving merger subsidiary called Myst Therapeutics, LLC now a wholly owned subsidiary of the Company; and

WHEREAS, Moffitt and Company through their respective scientists and investigators wish to collaborate in the performance of, and Company wishes to continue to sponsor existing research and new studies in accordance with the Research Plans (as defined below); and

WHEREAS, the Parties also wish to modify certain provisions in this Agreement.

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree to amend and restate the Original MCA in its entirety and as follows:

ARTICLE 1 DEFINITIONS.

1.1 The foregoing recitals are hereby incorporated herein by reference and acknowledged as true and correct. Unless specifically set forth to the contrary in this Agreement, the following terms, whether use in the singular or plural, shall have the respective meanings set forth below.

(a) "Budget" shall mean the budget that was agreed to by the Parties to be used for the purpose of performing a specific Research Plan (as defined below) as set forth in such Research Plan. It is contemplated that each separate Research Plan shall have its own corresponding Budget. For clarity, the plural of "Budget" is "Budgets".

(b) "Confidential Information" shall mean all information and materials, including but not limited to invention disclosures, proprietary technologies, economic information, business or research strategies, trade secrets and material embodiments thereof, furnished by or on behalf of such Party which would reasonably be considered to be proprietary or confidential, or that is marked "confidential" (or if provided in oral, visual or non-tangible form, made known at the time of disclosure to be confidential), but shall not include Data.

(c) "Data" shall mean Moffitt Data and Company Data.

(d) "Invention" shall mean any and all discoveries, developments, improvements, modifications, formulations, analogs or homologs, materials, compositions of matter, cell lines, processes, machines, manufactures and other inventions (whether or not patentable) invented in performance of a Research Plan, or, in the case of Moffitt as the inventing Party, through the use of any Data.

(e) "Joint Inventions" shall mean Inventions invented in performance of a Research Plan and invented jointly on one hand by Company employees or persons obligated to assign Inventions to Company and on the other hand by Moffitt employees. Moffitt and Company shall jointly own all Joint Inventions. Joint Inventions excludes TCR Inventions.

(f) "Collaboration Term" means the period commencing on the Effective Date and expiring on earlier of: (A) [***]; and (B) the [***] anniversary of the Effective Date.

(g) "Company Data" shall have the meaning set forth in Section 4.1.

(h) "Company Field" shall [***].

(i) "Company Inventions" shall mean Inventions invented in performance of a Research Plan and invented solely by Company employees or persons obligated to assign their Inventions to Company. Company retains all right, title, and interest in and to all Company Inventions. Company Inventions excludes TCR Inventions.

(j) "Company Research Materials" [***].

(k) "Final Deliverable" for a Research Plan shall have the definition given therein.

(l) "Moffitt Data" shall have the meaning set forth in Section 4.1 of this Agreement.

(m) "Moffitt Inventions" shall mean Inventions invented in performance of a Research Plan [***]: (i) during the Term; or (ii) in the Company Field for [***] year after the end of the Collaboration Term, and, in each case of (i) or (ii), invented solely by Moffitt's employees or persons obligated to assign their Inventions to Moffitt. Moffitt Inventions excludes TCR Inventions.

(n) "Moffitt Research Materials" shall mean any [***].

(o) "Option Period" shall have the meaning set forth in Section 6.5.

(p) "Negotiation Period" shall have the meaning set forth in Section 6.5.

(q) "Neoantigen TIL Field" shall mean [***].

(r) "Patient Samples" shall mean cancer tumor samples extracted from patients in connection with each Research Plan.

(s) "Pro Rata Budget" for a Research Plan as of a given date means an amount equal to the Budget for such Research Plan multiplied by the fraction X/[***], where "X" is the number of days that have passed after the Research Plan Execution Date for such Research Plan.

(t) "Research Plan" shall mean a statement of work that is signed by the Parties and attached hereto as Exhibit A, which is incorporated herein in its entirety or later becomes attached through an amendment by the Parties as further detailed in Section 13.6. It is contemplated that each separate project shall have its own Research Plan and Budget. As each subsequent Research Plan and Budget are agreed to and signed by the Parties, each shall state that it is to be incorporated and made a part of this Agreement and shall be consecutively numbered as Exhibits A-1, A-2, A-3, etc. For clarity, the plural of "Research Plan" is "Research Plans".

(u) Research Plan Execution Date" for a Research Plan means the date that the Parties execute such Research Plan so as to make it effective under the terms of this Agreement.

(v) "TCR Inventions" shall mean Inventions invented in performance of a Research Plan or through the use of any Moffitt Research Materials, in each case that are: (1) [***]; (2) [***] (i) [***]; or (ii) [***] and, (3) [***].

(w) "Term" shall have the meaning set forth in Section 7.1 of this Agreement.

ARTICLE 2 SUPPLY OF RESEARCH MATERIALS.

2.1 Company agrees to provide Moffitt with the Company Research Materials as set forth in each Research Plan. Company also may, at its discretion, provide Moffitt with certain information relating to the Research Materials. Moffitt agrees to provide Company with Moffitt Research Materials as set forth in each Research Plan.

ARTICLE 3 RESEARCH ACTIVITIES.

3.1 Moffitt and Company shall and use commercially reasonable efforts to undertake the Research Plans as set forth in this Agreement.

3.2 Moffitt will use Company Research Materials solely for research purposes in performance of the Research Plans. Moffitt will not use Company Research Materials in human subjects, in clinical trials, or for in vitro or in vivo diagnostic purposes involving human subjects without the prior written consent of Company. Moffitt will not transfer Company Research Materials to a third party.

3.3 Company will use Moffitt Research Materials solely for research purposes in performance of the Research Plans. Company will not use Moffitt Research Materials in human subjects, in clinical trials, or for in vitro or in vivo diagnostic purposes involving human subjects without the prior written consent of Moffitt. Company will not transfer Moffitt Research Materials to a third party. Company shall not directly use the Moffitt Research Material to produce or manufacture products that will be sold, leased, licensed or transferred to any third party. The foregoing sentence does not (and nothing in this Agreement shall) restrict Company from manufacturing, using, selling or otherwise exploiting products or services that are created from any research of the Moffitt Research Material.

3.4 [***].

ARTICLE 4 DATA AND REPORTING.

4.1 [***]. Throughout the Term, Moffitt shall maintain complete and accurate records of all Moffitt Data and provide Company a copy of such Moffitt Data upon reasonable request by Company. Throughout the Term Company shall maintain complete and accurate records of all Company Data and provide Moffitt a copy of such Moffitt Data upon reasonable request by Moffitt. Such requests by either Party shall not exceed [***] per calendar year. Within [***] days after the expiration or termination of this Agreement or completion of a specific Research Plan, whichever is earlier, each Party shall promptly provide a written report, and copy, of any and all of its Data to the other Party.

4.2 Company recognizes that Moffitt may wish to publish the Moffitt Data in scientific journals or present the Moffitt Data at symposia or other academic meetings, and Company agrees that Moffitt will have the right to do so solely in accordance with the following provisions. During each Research Plan, Moffitt will periodically share its presentation and/or publication strategy with Company for input. Moffitt will submit to Company any such proposed publication or presentation of the Moffitt Data at least [***] days prior to the submission for publication or presentation. If Company determines that the proposed publication or presentation contains patentable subject matter that requires protection, Company may require the delay of publication or presentation for a period of not more than [***] days to permit the preparation and filing of a patent application. If Company determines that the proposed publication or presentation includes Company Confidential Information (including, without limitation, any Company Data) other than Moffitt Data, it will so inform Moffitt, and Moffitt will delete such Confidential Information from any proposed disclosure as directed by Company. Notwithstanding the foregoing, once Company has reviewed and approved a publication or presentation for written or oral disclosure, Moffitt shall be allowed to freely disclose such publication or presentation in the future. If Moffitt makes any material changes to a publication or presentation, such publication or presentation must be re-submitted to Company for review in accordance with this Section 4.2.

4.3 The Parties may elect to collaborate together in writing a manuscript to be published in a respected scientific journal. For such jointly written manuscripts, authorship shall be based on contributions to each Research Plan, in accordance with ICMJE guidelines and academic standards and customs.

4.4 On a [***] basis (unless the Parties agree to a different frequency), Moffitt shall update Company with the progress of activities under each Research Plan. Such interaction may be performed via teleconference, in-person meeting, or by written communication. The updates may include a summary of the number of patients enrolled in the studies to which such Research Plans relate and the number of patients from which samples have been collected, the status of the work outlined in the Research Plan and the results thereof.

ARTICLE 5 OWNERSHIP; NO IMPLIED LICENSE.

5.1 Moffitt acknowledges and agrees that, notwithstanding any other provisions of this Agreement, (i) Company holds all right, title, and interest in and to the Company Research Materials and Company Confidential Information, and (ii) Company has the right to use or permit others to use the Company Research Materials and Company Confidential Information at any time for any lawful purpose. No option, license, or conveyance of rights, express or implied, is granted by Company to Moffitt in connection with any Company Research Materials or Company Confidential Information, except the right to use the Company Research Materials and Company Confidential Information in accordance with the terms of this Agreement.

5.2 Company acknowledges and agrees that, notwithstanding any other provisions of this Agreement, (i) Moffitt holds all right, title, and interest in and to the Moffitt Research Materials and Moffitt Confidential Information, and (ii) Moffitt has the right to use or permit others to use the Moffitt Research Materials and Moffitt Confidential Information at any time for any lawful purpose. No option, license, or conveyance of rights, express or implied, is granted by Moffitt to Company in connection with any Moffitt Research Materials or Moffitt Confidential Information, except the right to use the Moffitt Research Materials and Moffitt Confidential Information in accordance with the terms of this Agreement.

ARTICLE 6 INVENTIONS.

6.1 [***]. Each Party shall retain all of its right, title and interest in and to any and all inventions made prior to, or outside the performance of the Research Plans. Except as expressly set forth herein, no license, express or implied, is granted with respect to any patents, patent applications, know-how (whether patentable or unpatentable) or other intellectual property rights of the other Party. [***].

6.2 [***] (c) [***] (d) [***] and (e) [***].

6.3 With respect to Joint Inventions, [***] (a) [***] (b) [***] (c) [***] (d) [***] and (e) [***]. Each Party hereby grants the other Party a non-exclusive, worldwide, sublicensable (through multiple tiers), perpetual, irrevocable, royalty-free license, under all Joint Inventions, to make, use, sell, offer for sale, import products and services and/or otherwise practice such Joint Inventions.

6.4 Company hereby grants Moffitt a royalty free, non-sublicensable, non-transferable, perpetual, non-exclusive license to use and practice any Company Invention for its internal non-commercial research purposes. Moffitt hereby grants Company a royalty free, sublicensable (through multiple tiers), non-transferable, perpetual, non-exclusive license to use and practice any Moffitt Inventions (a) for internal, non-commercial research purposes outside the Company Field; and/or (b) to research, develop, make, use, sell, offer to sell, or import products and/or services in the Company Field. Moffitt hereby grants Company a royalty free, sublicensable (through multiple tiers), non-transferable, perpetual, non-exclusive license to use and practice any TCR Inventions to research, develop, make, use, sell, offer to sell, or import products and/or services in the Neoantigen TIL Field.

6.5 Moffitt hereby grants Company an option to a royalty-bearing, sublicensable, exclusive license in Moffitt Inventions, TCR Inventions, and/or Moffitt's interest in Joint Inventions for such territories as Company may request. Company may exercise its option to such exclusive license at any time within six (6) months after Moffitt notifies Company of a new Invention. ("Option Period"). In the event Company notifies Moffitt in writing that it wishes to exercise its option to an exclusive license during the Option Period, the Parties shall have six (6) months ("Negotiation Period") to agree on the terms of such license, which shall be negotiated in good faith under commercially reasonable terms. In the event that (a) Company fails to notify Moffitt of its desire to exercise its option to an exclusive license during the Option Period, or (b) Company notifies Moffitt that it does not wish to exercise its option to any exclusive license, or (c) the Parties are unable to agree on the terms of such license by the end of the Negotiation Period, then Moffitt shall have no further obligation to Company with respect to such Invention [***].

ARTICLE 7 TERM AND TERMINATION.

7.1 This Agreement will commence as of the Effective Date set forth in the first paragraph of this Agreement and unless terminated otherwise as provided herein, this Agreement will expire upon the later of (i) four (4) years from the Effective Date, or (ii) the termination or expiration of all Research Plans in effect under this Agreement unless extended upon mutual written agreement of the Parties ("Term").

7.2 Either Party may terminate this Agreement (i) upon any breach by the other Party of the terms or conditions of this Agreement, which breach cannot be, or is not, cured within [***] days after the breaching Party receives written notice by the non-breaching Party regarding such breach or (ii) upon the other Party becoming judicially determined to be insolvent or bankrupt or making an assignment for the benefit of its creditors, upon appointment of a trustee or receiver for the other Party of all or substantially all of its property, or upon the filing of a voluntary or involuntary petition by or against the other Party under any bankruptcy or insolvency law, the reorganization or rearrangement provisions of the United States Bankruptcy Code, or any similar law, in each case, that is not dismissed within [***]. The rights of termination under this Section 7 will not be affected in any way by a Party's waiver or failure to take action with respect to any previous breach or other circumstance giving rise to the rights of termination hereunder.

7.3 [***].

7.4 Termination of this Agreement for any reason will be without prejudice to any rights that will have accrued to the benefit of either Party prior to such termination. Sections 3-6, 8, and 10-13 shall survive termination or expiration of this Agreement. Upon expiration or termination of this Agreement, Moffitt will, at the direction of Company , within [***] days after termination, destroy or return (a) all Company Research Materials supplied to it and (b) all copies of the Company Confidential Information other than Moffitt Data (except that Moffitt may retain one copy of the Company Confidential Information solely for archival purposes, subject to the obligations of Section 8 below). Notwithstanding the foregoing or Section 3.3, after expiration or termination of this Agreement, [***].

ARTICLE 8 CONFIDENTIALITY AND USE.

8.1 To the extent permitted by law, the Parties shall safeguard the other Party's Confidential Information against disclosure to third parties with the same degree of care as it exercises with its own data of a similar nature. Moffitt and Company agree not to disclose Confidential Information to others (except to their employees, agents, independent contractors, consultants, or affiliates who are bound by a like obligation of confidentiality). The Parties shall use the Confidential Information of the other Party in furtherance of performing or carrying out their respective obligations and duties under this Agreement or as otherwise expressly permitted herein. Except as expressly permitted herein, neither Party shall disclose the other Party's Confidential Information. [***]. Moffitt shall not disclose any Data to any third parties until the earlier of the following: (a) the date it is published and/or publicly presented in accordance with Section 4.2, (b), prior written approval of Company with respect to such Data, or (c) [***] years from the applicable Research Plan Execution Date. [***]. Confidential Information does not include information which:

(a) is publicly available prior to the date of this Agreement or becomes publicly available thereafter through no wrongful act of the receiving Party;

(b) was known to the receiving Party prior to the date of disclosure or becomes known to the receiving Party thereafter from a third party having a bona fide right to disclose the information;

(c) the receiving Party can demonstrate, through written documentation, was in the receiving Party's rightful possession on a non-confidential basis prior to disclosure by the providing Party hereunder;

(d) the receiving Party can demonstrate, through written documentation, is disclosed to the receiving Party without restriction on further disclosure; or

(e) the receiving Party can demonstrate, through written documentation, is independently developed without the use of the providing Party's Confidential Information.

(f) The receiving Party may disclose the providing Party's Confidential Information to the extent: (i) such Confidential Information must reasonably be disclosed to regulatory authorities, provided that the receiving Party promptly notifies the providing Party to give the providing Party the opportunity to contest or limit the scope of such disclosure; or (ii) the receiving Party is obligated to produce pursuant to an order of a court of competent jurisdiction or a facially valid administrative, legislative or other subpoena or pursuant to applicable law, provided that the receiving Party promptly notifies the providing Party to give the providing Party the opportunity to contest or limit the scope of such order.

For each Research Plan, the obligations of confidentiality and non-use under this Section 8 shall continue for [***] years from the applicable Research Plan Execution Date.

ARTICLE 9 NOTICES.

9.1 Any request, notice, report, payment, approval or other communication required or permitted under this Agreement will be in writing, and will be deemed delivered (i) on the date of delivery when delivered personally; (ii) on the date sent by confirmed facsimile (followed by the actual document sent by commercial express courier specifying next day delivery, with written verification of receipt); (iii) one business day after deposit with a commercial overnight courier specifying next day delivery, with written verification of receipt; or (iv) on the date received when sent by registered or certified mail, return receipt requested, postage prepaid. All communications will be sent to the address set forth below or such other address as either Party may designate from time to time in accordance with this Section 9.1.

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

To Company:
Turnstone Biologics Corp.
920 Broadway, 16TH Floor
New York, NY 10010
Attn: Maura Campbell,
VP Intellectual Property & Contracts
Email: [***]

and

Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304-1130
Attn: Lila Hope

To Moffitt:
H. Lee Moffitt Cancer Center and Research
Institute, Inc.
Attention: Director, Sponsored Research
12902 Magnolia Drive, MBC-OSR
Tampa, FL 33612
[***]

H. Lee Moffitt Cancer Center and Research
Institute, Inc.
Attention: Vice President for Research
Administration
12902 Magnolia Drive, SRB-3
Tampa, FL 33612
Fax: [***]

and

H. Lee Moffitt Cancer Center and Research
Institute, Inc.
Attn: [***], General Counsel

12902 Magnolia Drive
Tampa, Florida 33612-9497

With courtesy copies to:

ARTICLE 10 GOVERNING LAW.

10.1 This Agreement shall be governed by, and construed and interpreted in accordance with, the laws of the [***] without reference to conflict of laws principles or statutory rules of arbitration included therein. Any dispute or proceeding under this Agreement shall be subject to the exclusive jurisdiction and venue of [***] and the parties hereby consent to the exclusive personal jurisdiction and venue of these courts.

ARTICLE 11 WARRANTIES AND INDEMNIFICATION.

11.1 Moffitt accepts the Company Research Materials with the knowledge that they are experimental in nature and agree to comply with all laws and regulations for the shipping, handling and use thereof. COMPANY RESEARCH MATERIALS ARE BEING SUPPLIED "AS IS" WITH NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR WARRANTY AGAINST INFRINGEMENT. Company accepts the Moffitt Research Materials with the knowledge that they are experimental in nature and agree to comply with all laws and regulations for the shipping, handling and use thereof. MOFFITT RESEARCH MATERIALS ARE BEING SUPPLIED "AS IS" WITH NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR WARRANTY AGAINST INFRINGEMENT.

11.2 No indemnification for any loss, claim, damage, or liability is intended or provided by either Party under this Agreement. Each Party shall be liable for any loss, claim, damage or liability that said Party incurs as a result of said Party's activities under this Agreement.

ARTICLE 12 PAYMENT.

12.1 [***]. Unless otherwise agreed in writing by the Parties, such payment amount is inclusive of any and all applicable fees, personnel costs, and overhead.

ARTICLE 13 MISCELLANEOUS.

13.1 The Parties shall have separate agreements with their employees whereby the employees are obligated to assign all right, title, and interest in any Invention generated in the course of any Research Plans to such Party.

13.2 Company shall perform any Research Plans and its other obligations hereunder and use the Moffitt Research Materials in compliance with all applicable laws, regulations and legal requirements, including but not limited to those relating to biotechnological research, handling and containment of biohazardous materials, and use or disclosure of patient information or materials.

13.3 Moffitt shall perform any Research Plans and its other obligations hereunder and use the Company Research Materials in compliance with all applicable laws, regulations and legal requirements, including but not limited to those relating to biotechnological research, handling and containment of biohazardous materials, and use or disclosure of patient information or materials.

13.4 The Parties represent and warrant that they have the right and authority to enter into this Agreement and perform its obligations and grant the rights granted hereunder and that no pre-existing or future obligation, through contract or otherwise, will substantially interfere with or prevent them from performing its obligations or substantially interfere with or prevent them from exercising its rights hereunder.

13.5 Each Party shall not assign or transfer any rights, obligations or duties under this Agreement without the prior written consent of the other Party; provided, however, that Company may make such an assignment or transfer without Moffitt's consent in connection with the sale of all or substantially all of its stock, business or assets to which this Agreement relates.

13.6 This Agreement shall constitute the entire understanding between the Parties and supersedes any and all prior or contemporaneous representations, agreements and promises, written or oral, between the Parties regarding the subject matter of this Agreement. No modification, amendment, or waiver may be accomplished to the terms of the Agreement without the written consent of both Parties.

13.7 In the event that any provision of this Agreement shall be found invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

13.8 It is understood that this Agreement in no way alters any rights that the U.S. Government might have.

13.9 The headings preceding the text of each section of this Agreement are for convenience only and shall not be construed to define, modify, expand, limit, or affect the construction of or to be taken into account in interpreting the substance of this Agreement.

13.10 The failure of any Party hereto to enforce at any time, or for any period of time, any provision of this Agreement shall not be construed as a waiver of either such provision or of the right of such Party thereafter to enforce each and every provision of this Agreement.

13.11 Company shall comply with all applicable United States law and regulations controlling the export of certain commodities and technical data, including without limitation all Export Administration Regulations of the United States Department of Commerce. Among other things, these laws and regulations prohibit or require a license for the export of certain types of commodities and technical data to specified countries. Company hereby gives written assurance that it will comply with all applicable United States export control laws and regulations, that it bears sole responsibility for any violation of such laws and regulations by itself.

13.12 The Parties agree that this Agreement may be executed and delivered by facsimile, electronic mail, Internet, or any other suitable electronic means, and the Parties agree that signatures delivered by any of the aforementioned means shall be deemed to be original, valid, and binding upon the Parties.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

H. LEE MOFFITT CANCER AND RESEARCH INSTITUTE, INC	**TURNSTONE BIOLOGICS CORP.**
By: *[***]*	By: */s/ Sammy Farah*
[***]	Name: Sammy Farah
Director, Office of Sponsored Research	Title: President and CEO

Exhibit 10.8

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

LIFE SCIENCE ALLIANCE AGREEMENT

by and between

H. Lee Moffitt Cancer Center and Research Institute, Inc.

and

Turnstone Biologics Corp.

TABLE OF CONTENTS

LIFE SCIENCE ALLIANCE AGREEMENT

THIS LIFE SCIENCE ALLIANCE AGREEMENT (the "**Agreement**") is made effective as of June 1, 2022 (the "**Effective Date**") by and between the H. Lee Moffitt Cancer Center and Research Institute, Inc., a Florida non-profit corporation having a principal place of business 12902 Magnolia Drive, Tampa, Florida 33612 ("**Moffitt CCRI**"), for itself and on behalf of each of its Affiliates that is a counterparty signatory to an Underlying Agreement (as defined below), and Turnstone Biologics Corp., a corporation duly organized under the laws of the State of Delaware whose address is 920 Broadway, 16th Floor, New York, New York 10010 (hereinafter "**Company**").

RECITALS

WHEREAS, Moffitt CCRI, and its subsidiaries, deemed by the Florida Legislature to be providing a statewide function in Florida and primarily acting as an instrumentality of the State of Florida, govern and operate the legislatively created H. Lee Moffitt Cancer Center and Research Institute;

WHEREAS, the Florida Legislature intends that Moffitt CCRI and its subsidiaries strive to remain a National Cancer Institute designated comprehensive cancer center, a statewide research institute, a national resource for basic research, clinical research, and interdisciplinary approaches to patient treatment, and a community resource through outreach and communication efforts;

WHEREAS, in addition to its capabilities as a research institute, Moffitt CCRI and its subsidiaries have experience in the development and manufacture of pharmaceutical, biopharmaceutical and biotechnology products;

WHEREAS, Company is a biotechnology company focused on the development and commercialization of novel broad spectrum cancer immunotherapy products;

WHEREAS, Company and Moffitt (as defined below) have entered into various agreements as specified in more detail herein relating to the conduct of scientific research and in the public interest the development and manufacture of pharmaceutical, biopharmaceutical or biotechnology products to improve patient care and treatments, and now wish to enhance and deepen their research collaboration, whereby (a) Moffitt is willing to provide to Company enhanced research and research affiliated services that enhance the conduct of scientific research specifically and generally and as described herein and (b) Company, in consideration of the enhanced services offered or provided, is willing to issue to Moffitt CCRI certain shares in common stock of Company and to pay to Moffitt CCRI certain milestone and alliance funding payments as described herein.

NOW, THEREFORE, in consideration of the foregoing and the mutual promises and covenants hereinafter set forth, Moffitt CCRI and Company, intending to be legally bound, hereby agree as follows:

ARTICLE 1 — DEFINITIONS

When used in this Agreement, capitalized terms will have the meanings as defined below and throughout this Agreement. In addition, capitalized terms used herein and not otherwise defined herein shall have the meanings given to such term in the relevant Underlying Agreement and shall be construed in context to such relevant Underlying Agreement. Unless the context indicates otherwise, the singular will include the plural and the plural will include the singular:

1.1 "**Activated Clinical Trial**" has the meaning set forth in Section 4.1.

1.2 "**Activation Period**" has the meaning set forth in Section 4.1.

1.3 "**Activation Request**" has the meaning set forth in Section 4.1.

1.4 "**Affiliate**" means, as to a Person, any other Person that controls, is controlled by or is under common control with another Person, but only for so long as such control exists. For the purposes of this definition, the word "control" (including, with correlative meaning, the terms "controlled by" or "under the common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct the management and policies of such Person, whether by the ownership of more than fifty percent (50%) of the outstanding voting securities or capital stock of such Person or has other comparable ownership interests with respect to any Person other than a corporation, or by contract or otherwise.

1.5 "**Agreement**" has the meaning set forth in the first and opening paragraph of this Agreement.

1.6 "**Alliance**" has the meaning set forth in Section 2.1.

1.7 "**Alliance Benefits**" has the meaning set forth in Section 2.1.

1.8 "**Alliance Manager**" has the meaning set forth in Section 3.1.

1.9 "**Alliance Term**" has the meaning set forth in Section 12.1.

1.10 "**Amendment Period**" has the meaning set forth in Section 4.8.

1.11 "**Annual Funding True-Up Amount**" has the meaning set forth in Section 5.2(b).

1.12 "**Applicable Laws**" means any applicable supranational, federal, state, local or foreign law, statute, ordinance or principle of common law, or any rule, regulation, standard, judgment, order, writ, injunction, decree, arbitration award, agency guidelines or other requirement, license or permit of any Governmental Body, which may be in effect from time to time.

1.13 "**Background Intellectual Property**" has the meaning set forth in Section 7.2.

1.14 "**Biospecimen**" means any biologic material of human origin including tissues, blood, plasma, urine, spinal fluid, or other fluids derived from a human subject for the purposes of a clinical trial or other research, as applicable.

1.15 "**Business Day**" means a day on which banking institutions in New York, New York, and Tampa, Florida, are generally and commonly open for business, excluding any Saturday and Sunday.

1.16 "**CCPA**" has the meaning set forth in Section 9.2(b).

1.17 "**cGCP**" means applicable binding regulations governing the protections of human subjects participating in research, including the Declaration of Helsinki, generally accepted good clinical practices governing the conduct of clinical research, including E6 Good Clinical Practice Guidelines from the International Conference on Harmonization to the extent adopted by the FDA regulations, related regulatory requirements imposed by the FDA and all additional Applicable Laws or Regulatory Authority documents or regulations that replace, amend, modify, supplant, or complement any of the foregoing.

1.18 "**cGMP**" means the then-current good manufacturing practices as specified in 21 C.F.R. Parts 11, 210 and 211, ICH Guideline Q7A, and all additional Applicable Laws or Regulatory Authority documents or regulations that replace, amend, modify, supplant, or complement any of the foregoing.

1.19 "**Chairperson**" has the meaning set forth in Section 3.2(b).

1.20 "**Change of Control Event**" means, with respect to a Party, (a) a merger or consolidation involving such Party, as a result of which a Third Party acquires direct or indirect beneficial ownership of more than fifty percent (50%) of the voting power of the outstanding securities or other ownership interests of the surviving entity immediately after such merger, reorganization or consolidation, (b) a transaction or series of related transactions in which a Third Party, together with its Affiliates (determined as of immediately prior to the closing of the first such transaction), becomes the direct or indirect beneficial owner of more than fifty percent (50%) of the combined voting power of the outstanding securities or other ownership interests of such Party, or (c) the sale or other transfer to a Third Party of all or substantially all of such Party's and its controlled Affiliates' assets.

1.21 "**Clinical Data**" means, with respect to any Clinical Trial, data and results recorded by an investigator in the performance of the Clinical Trial.

1.22 "**Clinical Trial**" means a research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include placebo or other control) to evaluate the effects of the interventions on biomedical or behavioral health-related outcomes, and that, as required under Applicable Laws, has been approved by a Regulatory Authority and, if applicable, IRB. Clinical Trials shall include Phase 1 Clinical Trials, Phase 2 Clinical Trials, Phase 3 Clinical Trials and Registrational Clinical Trials.

1.23 "**Clinical Trial Biospecimens**" has the meaning set forth in Section 4.5.

1.24 "**Collaboration Partner**" means a Person other than an Affiliate of Company to which Company or any of its Affiliates has disposed, licensed or otherwise granted rights under any Intellectual Property owned or otherwise controlled by Company or any of its Affiliates for the Development and Commercialization of TIL Products. For clarity, Collaboration Partner does

not include Persons engaged by Company, any of its Affiliates or any of their respective Collaboration Partners for marketing, distribution or sale of TIL Products, such as contract sales organizations, wholesalers or distributors.

1.25 "**Commencement**" of a Clinical Trial means the first dosing of the first human subject enrolled in such Clinical Trial.

1.26 "**Commercialization**" or "**Commercialize**" means all activities, before or after Regulatory Approval, that are intended to facilitate the commercial exploitation of a pharmaceutical, biopharmaceutical, or biotechnology product, including pre-launch, launch, and post-launch marketing, promotion (including advertising and detailing), medical affairs activities, medical science liaison activities, sponsored product or continuing medical education activities, post-Regulatory Approval clinical studies (that are not required to obtain or maintain such Regulatory Approval), obtaining pricing and reimbursement approvals (whether or not required to obtain or maintain such Regulatory Approval), in each case with respect to such product, any importing, exporting, offering for sale, distribution, marketing and sale of such product, identifying, screening, treating or diagnosing human subjects as potential users of such product, as well as storing, handling, shipping, importing, customer support and invoicing, and interacting with Regulatory Authorities regarding any of the foregoing.

1.27 "**Commercially Reasonable Efforts**" means, (a) [***], and (b) [***]. A Party's obligation to undertake Commercially Reasonable includes that it shall (i) [***], (ii) [***], and (iii) [***].

1.28 "**Company**" has the meaning set forth in the first and opening paragraph of this Agreement.

1.29 "**Company Competitor**" has the meaning set forth in Section 4.10.

1.30 "**Company Parties**" has the meaning set forth in Section 11.1(b).

1.31 "**Company Response Period**" has the meaning set forth in Section 4.7(b).

1.32 "**Condemnation**" has the meaning set forth in Section 12.5(b).

1.33 "**Confidential Information**" means all confidential, proprietary or trade secret information or materials owned or controlled by a Party that has been disclosed by or on behalf of such Party to the other Party either in connection with the discussions and negotiations pertaining to this Agreement or in the course of performing this Agreement (other than through Alliance Benefits), and includes any information that relates to the actual or anticipated business activities, healthcare activities, research activities, development activities, technical data, trade secrets or know-how, proprietary information, including, but not limited to, research, product plans, patient lists, software developments, inventions, processes, copyrights, trademarks, patents, other intellectual property rights, technology, designs, drawings, engineering, hardware configuration information, marketing, finances or other business information. All data, results and reports pertaining to any TIL Product arising under this Agreement will be the Confidential Information of Company. Confidential Information does not include any of the foregoing items that have become publicly known and made generally available through no wrongful act of the other Party or of others who were under confidentiality obligations.

1.34 "**CPA**" has the meaning set forth in Section 6.7.

1.35 "**CPR**" has the meaning set forth in Section 13.2.

1.36 "**Dataset**" means, with respect to data, the data corresponding to a particular Biospecimen obtained from an individual. [***].

1.37 "**Development**" or "**Develop**" means, with respect to a pharmaceutical, biopharmaceutical, or biotechnology product, the performance of all pre-clinical and clinical development, including pharmacology, biodistribution and transduction studies and tissue distribution across species, translational studies, toxicology and tolerability studies, pharmacology/efficacy, test method development and stability testing, statistical analysis and report writing, process development, method development, formulation, formulation development and optimization, quality control development, statistical analysis, clinical trials, regulatory affairs (including preparation for a Regulatory Approval application submission and other submission-related activities), product approval and registration activities, manufacturing of clinical supplies and interacting with Regulatory Authorities regarding the foregoing.

1.38 "**Development Plan**" has the meaning set forth in Section 6.5.

1.39 "**Dispute**" has the meaning set forth in Section 13.1(a).

1.40 "**Effective Date**" has the meaning set forth in the first and opening paragraph of this Agreement.

1.41 "**Equity Milestone**" has the meaning set forth in Section 6.2(a).

1.42 "**Exclusive Alliance Lab Study**" has the meaning set forth in Section 4.10.

1.43 "**Executive Sponsor**" has the meaning set forth in Section 3.2(b).

1.44 "**Expert**" has the meaning set forth in Section 3.8(b).

1.45 "**Facility**" means the facility(ies) of Moffitt CCRI, its Affiliates and its Subsidiaries where Alliance Benefits shall be performed, including all of the equipment, machinery and facilities of Moffitt at such location that are used in the performance of the Alliance Benefits.

1.46 "**FDA**" means the United States Food and Drug Administration, or any successor agency thereto.

1.47 "**Force Majeure**" has the meaning set forth in Section 14.7.

1.48 "**Governmental Body**" means any: (a) nation, principality, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental

authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or entity and any court or other tribunal); (d) multi-national or supranational organization or body; or (e) individual, entity, or body exercising, or entitled to exercise, any executive, legislative, judicial, administrative, regulatory, police, military or taxing authority or power of any nature.

1.49 "**HIPAA**" means the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, and their implementing regulations, in each case as amended from time to time.

1.50 "**HIPAA Authorization**" means an authorization that includes the elements set forth in 45 C.F.R. § 164.508(c) and otherwise complies with the requirements set forth in 45 C.F.R. § 164.508, as such regulations are amended from time to time.

1.51 "**IIHI**" has the meaning set forth in Section 9.2(a).

1.52 "**IND**" means an investigational new drug application filed with the FDA or the equivalent application or filing filed with any equivalent agency or Governmental Body outside the United States (including any supra-national entity such as in the European Union) for approval to commence Clinical Trials in such jurisdiction, and including all regulations at 21 C.F.R. § 312 et seq. and equivalent foreign regulations.

1.53 "**Indemnification Cap Amount**" has the meaning set forth in Section 11.1(a).

1.54 "**Indemnified Party**" has the meaning set forth in Section 11.1(c).

1.55 "**Indemnifying Party**" has the meaning set forth in Section 11.1(c).

1.56 "**Indemnitees**" has the meaning set forth in Section 11.1(c).

1.57 "**Informed Consent**" means the process and, as applicable, form incorporating all of the required elements set forth under Applicable Laws, such as but not limited to 21 C.F.R. Part 50, Subpart B, and cGCP, by which a human subject is provided with material information to inform their decision as to whether to participate in a Clinical Trial and provides consent to such participation.

1.58 "**Intellectual Property**" means collectively all legal rights in works or ideas, including any patents, copyrights, trade secrets, know-how, inventions (whether or not patentable), discoveries, improvements, and all other intellectual property rights, including all applications and registrations with respect thereto, and all data, information (including Confidential Information as defined herein and "**Confidential Information**" as defined in a relevant Underlying Agreement), reports and any and all related documentation.

1.59 "**IPO**" means any initial public offering of the Company's equity.

1.60 "**IRB**" means any duly constituted institutional review board or independent ethics committee.

1.61 "**Joint Steering Committee**" has the meaning set forth in Section 3.2(a).

1.62 "**KOL**" has the meaning set forth in Section 4.3.

1.63 "**KOL Session**" has the meaning set forth in Section 4.3.

1.64 "**Laboratory Study**" means any in vivo or in vitro experiment in which a "**test article**", as such term is defined under the Federal Food, Drug, and Cosmetic Act and its implementing regulations promulgated by FDA, is studied prospectively in test systems under laboratory conditions to determine its safety or any experiment involving the prospective study of a "**test article**" in any animal. The term does not include studies utilizing human subjects or Clinical Trials. The term does not include basic exploratory studies carried out to determine whether a test article has any potential utility or to determine physical or chemical characteristics of a test article.

1.65 "**Licensed Data Sets**" has the meaning set forth in Section 4.4.

1.66 "**Losses**" has the meaning set forth in Section 11.1(a).

1.67 "**Lock-up Period**" has the meaning set forth in Section 6.3(c).

1.68 "**Manufacturing Notice Date**" has the meaning set forth in Section 4.7(b).

1.69 "**Manufacturing Services Agreement**" means that certain Manufacturing Services Agreement by an between Moffitt CCRI and Company dated June 1, 2022.

1.70 "**Master Collaboration Agreement**" means that certain Amended and Restated Master Collaboration Agreement entered into by the Parties dated January 1, 2021.

1.71 "**Materially Similar**" has the meaning set forth in Section 4.10.

1.72 "**Mathematical Studies**" has the meaning set forth in Section 4.2.

1.73 "**Mediation Notice Date**" has the meaning set forth in Section 13.2.

1.74 "**Moffitt**" means (a) Moffitt CCRI or, in context of a given Underlying Agreement or the performance of obligations or the exercise of rights under a given Underlying Agreement or (b) the Subsidiary of Moffitt that is a party to such Underlying Agreement.

1.75 "**Moffitt Alliance Shares**" has the meaning set forth in Section 6.1.

1.76 "**Moffitt CCRI**" has the meaning set forth in the first and opening paragraph of this Agreement.

1.77 "**Moffitt Genomic Data Sets**" has the meaning set forth in Section 4.4.

1.78 "**Moffitt Parties**" has the meaning set forth in Section 11.1(a).

1.79 "**NDA**" means a New Drug Application filed to the FDA pursuant to the requirements of the FDA, as more fully defined in 21 C.F.R. § 314.3 et seq., and any equivalent application submitted in any other country of the world to any equivalent agency or Governmental Body outside the United States (including any marketing authorization application filed to the European Medicines Agency in the European Union), including all additions, deletions or supplements thereto, and as any and all such requirements may be amended, or supplanted, at any time.

1.80 "**Net Sales**" means the gross amounts invoiced for sales of TIL Products by Company, any of its Affiliates or any of their respective Collaboration Partners to independent or unaffiliated Third Parties in bona fide, arm's-length transactions, after deducting, if not previously deducted in the amount invoiced, the following items:

(a) credits or allowances, if any, on account of price adjustments, recalls, claims, damaged goods, rejections or returns of items previously sold (including TIL Product returned in connection with recalls or withdrawals) and [***];

(b) discounts (including trade, quantity and cash discounts) actually allowed, cash and non-cash coupons, retroactive price reductions, and charge-back payments and rebates granted to any Third Party (including to Governmental Bodies, purchasers, reimbursers, customers, distributors, wholesalers, and group purchasing and managed care organization or entities (and other similar entities and institutions));

(c) import taxes, export taxes, exercise taxes (including annual fees due under Section 9008 of the United States Patient Protection and Affordable Care Act of 2010 (Pub. L. No.111-48) and other comparable laws), sales tax, value-added taxes, consumption taxes, duties or other taxes levied on, absorbed, determined or imposed with respect to such sales (excluding income or net profit taxes or franchise taxes of any kind);

(d) rebates (or their equivalent), administrative fees, chargebacks and retroactive price adjustments and any other similar allowances granted by Company, any of its Affiliates or any of their respective Collaboration Partners (including Governmental Bodies, purchasers, reimbursers, customers, distributors, wholesalers, and group purchasing and managed care organizations and entities (and other equivalent entities and institutions)) which effectively reduce the selling price or gross sales of the TIL Product, as well as costs of distribution and wholesale; and

(e) insurance, customs charges, freight, postage, shipping, handling, and other transportation costs incurred by Company, any of its Affiliates or any of their respective Collaboration Partners in shipping TIL Product to a Third Party.

Net Sales shall be determined in accordance with US GAAP. Net Sales shall not include transfers or dispositions for no profit, for charitable, promotional, evaluation, pre-clinical, clinical, regulatory, or governmental purposes or as commercial samples to the extent such transfers and dispositions are in line with prevailing market standards as applied by a prudent business Person in the applicable industry in the United States and Applicable Laws. Net Sales shall include the amount or fair market value of all other consideration received by Company or its Affiliates or

Collaboration Partners in respect of TIL Products, whether such consideration is in cash, payment in kind, exchange or other form. For clarification, sales of TIL Products between Company, any of its Affiliates, and any of their respective Collaboration Partners for the purpose of enabling resale by Company, its Affiliate, or their respective Collaboration Partner to a Third Party shall not be deemed a sale for purposes of this definition of "**Net Sales**", unless there is no subsequent sale of the TIL Products to a Third Party, and further provided that any subsequent sale of the TIL Products by Company, any of its Affiliates, or any of their respective Collaboration Partners to a Third Party shall account for Net Sales.

If any TIL Product is, or is sold as part of, a Combination Product, Net Sales shall be calculated assuming that the gross sale price of each unit is equal to the product of (A) Net Sales of the Combination Product calculated as above (i.e., calculated as for a non-Combination Product), and (B) the fraction (A/(A+B)), where:

"**A**" is the gross amount invoiced in such country from such TIL Product, if sold separately (and not as, or as part of, a Combination Product) in such country; and

"**B**" is the gross amount invoiced in such country from such Other Component, as applicable, included in the Combination Product (and not such TIL Product), if sold separately in such country.

If "**A**" or "**B**" cannot be determined by reference to non-Combination Product sales as described above, then Net Sales will be calculated as above, but the gross amount received in the above equation shall be determined by mutual agreement reached in good faith by the Parties prior to the end of the accounting period in question based on an equitable method of determining the same that takes into account, in the applicable country, the relative fair market value (including taking into account variations in dosage units, if applicable) of the TIL Product, on the one hand, and each Other Component, as applicable, on the other hand, in the Combination Product.

For purposes of this definition, "**Combination Product**" means any pharmaceutical product that (1) contains a TIL Product as well as one or more other active pharmaceutical ingredients ("**Other Component(s)**"), either as a fixed dose product, co-formulated product or co-packaged product, and sold for a single price, and (2) is Developed or Commercialized, alone or together with a Third Party, by Company or any of its Affiliates or Collaboration Partners.

1.81 "**Next Manufacturing Month**" has the meaning set forth in Section 4.7(b).

1.82 "**Notice of Senior Executive Resolution**" has the meaning set forth in Section 13.1(b).

1.83 "**Notice to Moffitt CCRI's Alliance Manager**" shall mean written notice from Company to Moffitt's Alliance Manager, which may take the form of electronic mail message, and which (in the case of electronic mail message) shall be deemed to be received on the earliest to occur of (1) acknowledgement or opening of such electronic mail message or (2) the [***] ([***]) [***] subsequent to the delivery of such electronic mail message.

1.84 "**Party**" or "**Parties**" means (a) Moffitt CCRI or Company or, collectively, both or (b), in context of a given Underlying Agreement or the performance of obligations or the exercise of rights under a given Underlying Agreement, Moffitt or Company or, collectively, both.

1.85 "**Person**" means any natural person, corporation, firm, business trust, joint venture, association, organization, company, partnership or other business entity, or any government or agency or political subdivision thereof.

1.86 "**Phase 1 Clinical Trial**" means a Clinical Trial in which an intervention is administered to human subjects at multiple dose levels with the primary purpose of determining safety, metabolism, and pharmacokinetic and pharmacodynamic properties of such intervention, and consistent with 21 C.F.R. § 312.21(a).

1.87 "**Phase 2 Clinical Trial**" means a Clinical Trial of an intervention in human subjects, the principal purposes of which are to make a preliminary determination that such intervention is safe for its intended use, to determine its optimal dose, and to obtain sufficient information about the intervention's efficacy to permit the design of Phase 3 Clinical Trials, and consistent with 21 C.F.R. § 312.21(b).

1.88 "**Phase 3 Clinical Trial**" means a human Clinical Trial of an intervention, which trial is designed (a) to establish that such intervention is safe and efficacious for its intended use; (b) to define warnings, precautions and adverse reactions that are associated with such intervention in the dosage range to be prescribed; and (c) consistent with 21 C.F.R. § 312.21(c).

1.89 "**Post Hoc Underlying Agreements**" has the meaning set forth in Section 2.3(a).

1.90 "**Priority Slot**" has the meaning set forth in Section 4.7.

1.91 "**Project**" means any service, collaboration, or other project described and agreed by the Parties under a given Underlying Agreement.

1.92 "**Protocol**" means, with respect to a Clinical Trial, the formal document setting forth how the Clinical Trial will be conducted, and that is subject to review and approval by, an IRB and the SRC in accordance with Applicable Laws and Moffitt policies and procedures.

1.93 "**Registrational Clinical Trial**" means a Clinical Trial that is designed to, and for which the competent Regulatory Authority has provided guidance that the design of such Clinical Trial is sufficient to, ascertain efficacy and safety of an intervention in support of the preparation and submission of an NDA for such intervention to such competent Regulatory Authority, regardless of whether such trial is referred to as a Phase 2(b) Clinical Trial or Phase 3 Clinical Trial. If a Clinical Trial of an intervention is not initially designed as a Registration Clinical Trial but is later re-designed, converted or expanded into such a trial, then it shall be deemed to be a Registration Clinical Trial as of the date of such re-design, conversion or expansion.

1.94 "**Regulatory Approval**" means, with respect to a country, region or regulatory jurisdiction, any and all approvals, licenses, registrations or authorizations of any competent Regulatory Authority necessary for the Commercialization (including distribution, marketing, promotion, offer for sale, use, import, reimbursement, export or sale) or other commercial

exploitation of a pharmaceutical, biopharmaceutical, or biotechnology product in such country, region or regulatory jurisdiction, but excluding any pricing and reimbursement approvals independent of whether or not such pricing and reimbursement approvals are legally required for the Commercialization of such pharmaceutical, biopharmaceutical, or biotechnology product in such country, region or regulatory jurisdiction.

1.95 "**Regulatory Authority**" means (a) in the US, the FDA, (b) in the European Union, the European Medicines Agency or the European Commission, or (c) any Governmental Body with similar regulatory authority over pharmaceutical, biopharmaceutical, or biotechnology products in any other jurisdiction anywhere in the world.

1.96 "**Representatives**" means, with respect to a Party, (a) its employees, contractors, subcontractors, consultants, agents, Affiliates or Persons otherwise associated with such Party as a result of the performance of this Agreement or an Underlying Agreement and (b) the employees, contractors, subcontractors, consultants, agents of such Party's Affiliates or Persons otherwise associated with such Party's Affiliates as a result of the performance of this Agreement or an Underlying Agreement.

1.97 "**Research Plan**", with respect to a Clinical Trial or Laboratory Study, has the meaning set forth in the Master Collaboration Agreement.

1.98 "**Risk Event**" has the meaning set forth in Section 12.4.

1.99 "**Sales Milestone Event**" has the meaning set forth in Section 6.4(a).

1.100 "**Senior Executive**" has the meaning set forth in Section 13.1(b).

1.101 "**Services**" means the services including scientific research to be performed by Moffitt under a given Underlying Agreement as described and agreed by the Parties therein.

1.102 "**Sponsored Research**" means the Company-sponsored research conducted by the Parties pursuant to a Research Plan.

1.103 "**SR Biospecimens**" has the meaning set forth in Section 4.6.

1.104 "**SRC**" has the meaning set forth in Section 4.1.

1.105 "**Subsidiary**" means, as the context requires, any of the following Affiliates of Moffitt CCRI (a) H. Lee Moffitt Cancer Center and Research Institute Hospital, Inc.; (b) H. Lee Moffitt Cancer Center and Research Institute Foundation, Inc.; or (c) H. Lee Moffitt Cancer Center and Research Institute Lifetime Cancer Screening Center, Inc. d/b/a Moffitt Medical Group.

1.106 "**Target Funding Amount**" has the meaning set forth in Section 5.1(b).

1.107 "**Termination Fee**" has the meaning set forth on Section 12.3(d)(i).

1.108 "**Third Party**" means any Person that is not a Party or an Affiliate of a Party hereunder.

1.109 "**TIL**" means, as the context requires, tumor-infiltrating lymphocytes or tumor-infiltrating lymphocyte therapy.

1.110 "**TIL Product**" means any pharmaceutical, biopharmaceutical, or biotechnology TIL product that (a) is Developed by Company or by Moffitt and (b) is advanced into the clinic under an IND sponsored by Moffitt (irrespective of whether such advancement occurs prior to or subsequent to any other advancements of such product into the clinic under an IND sponsored by Company).

1.111 "**Total Alliance Funding Amount**" has the meaning set forth in Section 5.1(a).

1.112 "**Underlying Agreements**" has the meaning set forth in Section 2.1, as may be amended pursuant to Section 2.2(c).

ARTICLE 2 — PURPOSE AND SCOPE OF ALLIANCE

2.1 **Alliance Overview**. The Parties acknowledge that, as of the Effective Date, Company and Moffitt have entered into the agreements and related statements of work, exhibits, and amendments thereto listed in **Exhibit 2.1**, which exhibit may be amended from time to time to list new agreements (all agreements listed in Exhibit 2.1, the "**Underlying Agreements**"). The scope of the Projects governed by the Underlying Agreements listed in Exhibit 2.1 as of the Effective Date includes the conduct of scientific research in the public interest by Moffitt and the development of Company's existing TIL pipeline through laboratory (pre-clinical and research) studies and Clinical Trials, whereby Moffitt will manufacture cell therapy products for mutually agreed upon Clinical Trials. In order to enhance and deepen their collaboration under the Underlying Agreements, and enhance Moffitt's research abilities and scope, the Parties agree to establish an alliance in which (a) Moffitt shall provide to Company, in addition to the Services to be performed by it pursuant to the Underlying Agreements, specific enhanced services and other benefits as described in Article 4 ("**Alliance Benefits**") and (b) Company, in consideration of the Alliance Benefits offered or provided, shall issue to Moffitt certain shares in common stock of Company and shall pay to Moffitt certain milestone and alliance funding payments as described in Section 4.1 and Article 6, in each case (a) and (b) subject to the terms and conditions of this Agreement ("**Alliance**").

2.2 **Precedence of Underlying Agreements, Future Agreements**.

(a) To the extent that an Underlying Agreement provides for Services to which one or more of the Alliance Benefits are reasonably applicable, such Services and related obligations of Moffitt under the relevant Underlying Agreement shall continue to apply, but in line with the enhanced scope and the additional benefits set forth in this Agreement. For example, in the event Moffitt is required under an Underlying Agreement to provide Company with access to Clinical Data for a Clinical Trial funded by Company, Moffitt shall provide such Clinical Data access to Company in accordance with the cadence and other requirements set forth in Section 4.2 and subject to all other provisions of this Agreement. Without limiting the foregoing, Moffitt shall use Commercially Reasonable Efforts to perform all of its obligations under the Underlying Agreements.

(b) To the extent that an Underlying Agreement does not provide for particular Services to which one or more of the Alliance Benefits could be reasonably deemed applicable, in particular if none of the Alliance Benefits is appropriate by nature for the subject matter of a given Underlying Agreement, the Alliance Benefits shall not apply to such (part of) the Underlying Agreement, unless the Parties specifically agree in an amendment to such Underlying Agreement that a given Alliance Benefit shall apply thereto.

(c) The Parties agree that any future collaboration agreements, services agreements, research agreements, statements of work and other agreements between the Parties shall be included in the scope of this Agreement and shall be included in the definition of "**Underlying Agreements**" hereunder, unless explicitly otherwise provided by the Parties. In entering into this Agreement, the Parties agree and acknowledge that the terms and conditions set forth in the Underlying Agreement that is (i) referred to as "**Clinical Trial Agreement**" under the "**Pending Projects**" in Exhibit 2.1 and (ii) under negotiation as of the Effective Date shall apply also to any Clinical Trial agreed upon by the Parties under the Alliance and during the Alliance Term irrespective of the particular product or indication. As soon as the Parties enter into any future collaboration agreement, services agreement, research agreement, statement or work or other agreement, the Parties shall update Exhibit 2.1 in writing for documentation purposes.

(d) In the event of any conflict or inconsistency between the terms of an Underlying Agreement and this Agreement, the terms of this Agreement shall supersede and control to the extent of any such conflict or inconsistency, unless the Parties specifically reference in an Underlying Agreement this Section 2.2(d) and the Parties' intent for the Underlying Agreement to supersede and control over a particular provision of this Agreement, in which case, for such Underlying Agreement only, the respective provision shall be superseded by the conflicting provision of such Underlying Agreement.

2.3 **Service Fees under Underlying Agreements and Alliance Funding**

(a) The Parties agree and acknowledge that all fees, costs, expenses and other payments payable by Company to Moffitt pursuant to the Underlying Agreements with an effective date on or *after* February 7, 2022, including any statement of work under any such Underlying Agreement that is made effective on or after February 7, 2022 (such Underlying Agreements, "**Post Hoc Underlying Agreements**") shall become due as agreed therein, but during the Alliance Term will be counted towards the Total Alliance Funding Amount pursuant to Section 4.1. Each such Post Hoc Underlying Agreement shall contain provisions addressing the Parties' agreement on a study budget, assignment of responsibilities for costs and expenses and cost sharing, as further set forth in Section 4.1.

(b) The Parties agree and acknowledge that all fees, costs, expenses and other payments payable by Company to Moffitt pursuant to Underlying Agreements with an effective date *before* February 7, 2022 (for clarity, pursuant to Underlying Agreements other than Post Hoc Underlying Agreements) shall become due as agreed in such Underlying Agreement and will not be counted toward Company's fulfilment of its obligation to pay the Total Alliance Funding Amount. For clarity, in the event that an Underlying Agreement is made effective before February 7, 2022, but a statement of work under such Underlying Agreement is made effective on or after February 7, 2022, the statement of work shall constitute a Post Hoc Underlying Agreement.

ARTICLE 3 — ALLIANCE MANAGERS; JOINT STEERING COMMITTEE

3.1 **Alliance Managers**.

(a) Promptly upon the Effective Date, each Party shall appoint one representative who shall act as such Party's primary point of contact for the Alliance ("**Alliance Manager**"). Moffitt CCRI's initial Alliance Manager shall be [***] and Company's initial Alliance Manager shall be [***]. Each Party may replace its Alliance Manager at any time upon written notice to the other Party. The Alliance Managers shall meet by teleconference or videoconference on a [***].

(b) The Parties shall, either through their respective Alliance Managers (or one or more other suitable representatives (such as project managers or other designees)): (i) coordinate the activities of the Parties under this Agreement, including by facilitating communications between the Parties with respect to the performance of each Project; (ii) coordinate the activities of the Joint Steering Committee and serve as non-voting participants and rotate in serving as Chairpersons of the Joint Steering Committee as set forth in Section 3.2(b); (iii) for each meeting of the Joint Steering Committee, schedule the meeting and establish a meeting agenda, including identification of relevant supporting information and materials to be discussed, which shall include quarterly progress reports or presentations regarding progress on milestones associated with each Project, including associated timelines, and general information regarding expenditures from each associated budget with a reasonable level of detail such that the Joint Steering Committee may assess progress against the associated budget; and (iv) draft and finalize minutes of such meeting for review and approval by the representatives of the Joint Steering Committee at the following meeting.

(c) Each Alliance Manager may bring any matter arising under this Agreement to the attention of the Joint Steering Committee if the Alliance Manager reasonably believes that such attention is warranted.

(d) Each Party shall retain the rights, powers, and discretion granted to it under this Agreement and any Underlying Agreement, and no such rights, powers, or discretion shall be delegated to or vested in the Alliance Managers. The Alliance Managers shall have only such powers as are specifically delegated to it hereunder and in particular shall not have any power to amend, modify, or waive compliance with this Agreement.

3.2 **Joint Steering Committee Establishment and Membership**.

(a) As soon as possible, but no later than [***] ([***]) [***] after the Effective Date, the Parties shall establish a joint steering committee ("**Joint Steering Committee**") to oversee, review, coordinate, and govern activities of the Parties under this Agreement and the Underlying Agreements, including the review and approval of proposals for Projects and/or Research Plans. In performing its various activities, the Joint Steering Committee shall focus on ways to conduct scientific research more efficiently and in a manner more focused toward finding a treatment or cure for cancer.

(b) The Joint Steering Committee shall comprise [***] ([***]) members, not including each Party's Alliance Manager who likewise shall attend each meeting of the Joint

Steering Committee and who in rotation for each meeting of the Joint Steering Committee held in accordance with Section 3.3 shall serve as the chairperson of the Joint Steering Committee ("**Chairperson**"). Moffitt CCRI' s Alliance Manager shall serve as Chairperson for the first meeting of the Joint Steering Committee under this Agreement. Each Party will appoint an executive sponsor (each, an "**Executive Sponsor**") who will serve as a co-chair of the Joint Steering Committee and will provide overall direction and guidance under the Alliance. Each Executive Sponsor will be a voting member of the Joint Steering Committee. The [***] ([***]) members shall comprise [***] ([***]) representatives from Moffitt CCRI and [***] ([***]) representatives from Company, whereby one (1) of each Party's representatives shall be such Party's appointed Executive Sponsor. The Parties may mutually agree to adjust the number of members in the Joint Steering Committee from time to time as appropriate. Each Party may replace any or all of its representatives on the Joint Steering Committee at any time upon written notice to the other Party. Each representative of a Party shall have sufficient seniority and expertise in the biotechnology and pharmaceutical industry to participate on the Joint Steering Committee. Each Party may designate a substitute representative of such Party to attend and perform the functions of a representative at any meeting of the Joint Steering Committee; provided, however, that such substitute meets the required qualifications.

(c) Each Party may, subject to the other Party's prior approval, invite nonmember guests of such Party to attend meetings of the Joint Steering Committee with advance notice, on an agenda-driven basis, as non-voting representatives and subject to the confidentiality obligations under this Agreement. Upon request of either Party, the Alliance Manager(s) shall invite clinical and translational subject matter experts of either Company (or its Affiliate or Collaboration Partner) or Moffitt to participate in meetings of the Joint Steering Committee on an *ad hoc* basis to provide insight on co-development clinical trial designs or protocols.

3.3 **Meetings**.

(a) The Joint Steering Committee shall meet on a quarterly basis or more frequently as the Parties mutually deem appropriate. Meetings can be held by videoconference, teleconference or in person. Unless otherwise agreed, a quorum of the Joint Steering Committee will be [***] ([***]) of the members, with at least [***] ([***]) representatives from each Party. The first scheduled meeting of the Joint Steering Committee shall be held as soon as possible, but no later than [***] ([***]) [***] after the Effective Date. Meetings of the Joint Steering Committee that are held in person shall alternate between the offices of the Parties, or such other location as the Parties may agree.

(b) The Chairperson shall be responsible for calling meetings of the Joint Steering Committee at least [***] ([***]) [***] in advance, developing Joint Steering Committee meeting agendas and including on the agenda any items proposed by either Party. The Chairperson shall lead the meetings of the Joint Steering Committee; the other Party's Alliance Manager (not acting as Chairperson) shall serve as secretary of such meetings. Neither the Chairperson nor the secretary shall have any voting or other decision-making authority on the Joint Steering Committee.

(c) Each Party shall use reasonable efforts to cause its representatives to attend the meetings of the Joint Steering Committee. Without limitation to any specific reporting

obligation of either Party under this Agreement or any Underlying Agreement, each Party shall, if required by the applicable Joint Steering Committee meeting agenda, provide written progress reports on the status of its activities under this Agreement or any Underlying Agreement at least [***] ([***]) [***] in advance of each Joint Steering Committee meeting.

(d) The secretary shall promptly prepare and distribute to all members of the Joint Steering Committee draft minutes of the meeting for review and comment, including a list of any actions or decisions approved by the Joint Steering Committee. The minutes of each Joint Steering Committee meeting shall be presented at or before the next Joint Steering Committee meeting and shall require unanimous approval by vote of the Joint Steering Committee before such minutes will be considered final.

3.4 **Responsibilities**. In addition to overseeing the activities under this Agreement and providing a forum for discussion of such activities, the Joint Steering Committee shall in particular have the following responsibilities and related decision-making authorities:

(a) oversight and discussion of all activities of the Parties in the Alliance under this Agreement, including the performance of the Alliance Benefits by Moffitt and the financial and equity contributions by Company;

(b) monitoring of existing Projects and the Parties' activities under the Underlying Agreements to facilitate successful development, management, and performance of each Project, including monitoring and overseeing specific objectives, milestones, timelines, staffing, budgets, and proposed deliverables and considering deviations from and amendments to statement(s) of work from time to time as needed;

(c) determination of the scientific scope and direction of Projects undertaken pursuant to the Underlying Agreements, irrespective of whether the Alliance Benefits pursuant to this Agreement are applicable, and discussion and alignment on Project goals, timelines and prioritization of Projects;

(d) review and discussion of results generated in Projects (including interim results communicated by competent Project teams to the Alliance Managers);

(e) conduct and monitoring of the request for proposal process pursuant to Section 3.5, including (i) creation of a request for proposal; selection of objective review criteria, review, and evaluation of proposals submitted by the Parties in accordance with a given Underlying Agreement; (ii) evaluation of the budget for each proposal to ensure that it is consistent with the fair market value of the commitments, rights, goods, and services exchanged between the Parties, and has been established through arms-length negotiations by Moffitt and Company, whereby the Joint Steering Committee shall, in coordination with other appropriate Representatives of the Parties, develop sufficient evidence to support fair market value for all payments to be made under any Project pursuant to such Underlying Agreement; and (iii) review and approval of each statement of work and associated budget prior to execution, as well as any proposals for amendments to a statement of work; provided, however, statements of work and amendments will only become effective upon signature by an authorized representative of each Party;

(f) discussion, approval and monitoring of Clinical Trials and Laboratory Studies to be performed by the Parties under the Underlying Agreements, determination of Clinical Trials for which Moffitt shall manufacture cell therapy products and determination of Clinical Trials or Laboratory Studies with regard to which Moffitt shall provide Alliance Benefits;

(g) serving as an overall information sharing forum with the aim to keep Moffitt informed of the development, manufacturing and commercialization of TIL Products by Company, its Affiliates and their respective Collaboration Partners, including reviewing and discussing of presentations on the Development Plan presented by Company pursuant to Section 6.5;

(h) if there are any unallocated payment amounts at the expiration or termination of a given Underlying Agreement, the Joint Steering Committee shall use reasonable efforts to allocate such amounts, in a manner consistent with fair market value, to studies, research or tests that are of mutual scientific interest to the Parties and satisfy the agreed objective criteria used in connection with Section 3.5;

(i) addressing of issues related to publications as well as filing, prosecution and maintenance of Intellectual Property, in each case if escalated;

(j) serving as a forum to facilitate discussions and the resolution of issues regarding the conduct of the collaboration under the Underlying Agreements or the Alliance under this Agreement or of Disputes; and

(k) such other responsibilities as may be mutually agreed upon by the Parties from time to time.

3.5 **Proposal Selection Process**. The Joint Steering Committee shall solicit proposals from both Parties and select proposals for Projects in accordance with the process determined by the Joint Steering Committee, which may, to the extent that a Party deems reasonable, include a request for proposal for certain Projects in furtherance of the scope of the Collaboration. In any event, the members of the Joint Steering Committee will initially review and rank the proposals for oral presentation to the Joint Steering Committee by applying to written proposals objective criteria determined by the Joint Steering Committee and providing feedback to the applicable Party (if applicable). Once a proposal is selected for oral presentation to the Joint Steering Committee, the proposing Party will then complete a draft statement of work and associated budget (including any associated overhead and other fees). The Joint Steering Committee will then select proposals to fund by applying objective criteria to proposed statement(s) of work presented at a Joint Steering Committee meeting. Once a proposal is selected for funding by the Joint Steering Committee, the draft statement of work and associated budget will be finalized based on feedback from the Joint Steering Committee and will be subject to review and approval by the Parties. The statement of work and associated budget will not be effective until executed by both Parties. For clarity, the Parties, through the Joint Steering Committee, may from time to time agree to approach members of Moffitt CCRI faculty outside the scope of the request for proposal process with requests to propose new Projects.

3.6 **Decision Making**. Decisions of the Joint Steering Committee on any matter may be taken at any Joint Steering Committee meeting, irrespective of whether such meeting is held

videoconference, teleconference or in person. When a statement of work, budget, grant, proposal, or similar topic is brought to a member of the Joint Steering Committee for review or approval, the Joint Steering Committee shall promptly arrange to review or approve such item, as applicable. When a Dispute is brought to a member of the Joint Steering Committee for discussion or resolution, the Joint Steering Committee likewise shall promptly arrange to discuss and resolve such Dispute. Following the reasonable consideration of comments by each Party's representatives, the Joint Steering Committee shall make its decisions by consensus. The Parties' representatives on the Joint Steering Committee shall collectively have one (1) vote for Moffitt and one (1) vote for Company on all issues and disputes within the Joint Steering Committee's authority. At least one (1) representative from each Party participating in any vote shall have sufficient authority to make such decisions on behalf of their respective Party.

3.7 **Good Faith**. Without limiting the ability of either Party to exercise its rights hereunder, in conducting themselves on the Joint Steering Committee, and in exercising their rights under this Agreement, all representatives from both Parties shall consider diligently, reasonably, and in good faith all input received from the other Party and shall use reasonable efforts to reach consensus on all topics. Any agreement or inability to reach agreement by the Joint Steering Committee regarding any Dispute concerning a breach of this Agreement or an Underlying Agreement shall not relieve the breaching party of its responsibility or liability for such breach unless such agreement is set forth in a written amendment to this Agreement or, as applicable, the relevant Underlying Agreement executed by authorized representatives of each of the Parties.

3.8 **Disputes**. If the Joint Steering Committee is unable to reach agreement on any matter within the Joint Steering Committee's authority within [***] ([***]) [***] after the matter is first referred to the Joint Steering Committee, the following shall apply:

(a) **Matters Subject to Casting Vote of either Party**. [***].

(b) **Matters Subject to Expert Determination**. If the dispute concerns disagreements relating to [***], the dispute shall be submitted for decision to an independent expert, which (i) [***], and (ii) [***], and (iii) [***] ("**Expert**"). The Expert shall be selected by mutual agreement of the Parties or, failing such agreement within [***] ([***]) [***]after delivery of a written request by one (1) Party to the other requiring such agreement, the Expert shall be selected at the request of either Party by the president or other competent official of the International Chamber of Commerce, New York. The terms of appointment of the Expert shall include an obligation on the part of the Expert to establish a timetable for the making of submissions and replies and to notify the Parties in writing of his decision within [***] ([***]) [***] from the date on which the Expert has been selected (or such other period as the Parties may agree). The decision of such Expert shall be final, and the costs of such decision shall be borne equally between the Parties. For the avoidance of doubt, any dispute subject to dispute resolution pursuant to this Section 3.8(b) shall not be subject to the terms and conditions of Article 13.

(c) **Matters Subject to Dispute Resolution**. If the dispute concerns any other matter allocated to the decision of the Joint Steering Committee pursuant to this Agreement, each Party may elect to seek resolution of the dispute in accordance with Article 13.

(d) **Matters Concerning a Material Breach**. For the avoidance of doubt: any dispute between the Parties to whether or not a Party has undertaken a material breach of this Agreement or any Underlying Agreement shall not be subject to either Party's casting vote or determination by an Expert, but shall be solely governed by Article 13 of this Agreement.

3.9 **Limitation of Authority**. The Joint Steering Committee shall not have any authority beyond the specific matters set forth in this Article 3 and explicitly assigned to it in any provision of this Agreement, and in particular shall not have any power to amend or modify the terms of this Agreement or any Underlying Agreement. No decision of the Joint Steering Committee or a Party exercising a deciding vote may be in contravention of any terms and conditions of this Agreement or any Underlying Agreement. For clarity, the Joint Steering Committee shall have the power to align on and prepare decisions of the Parties (including alignment on key terms or detailed wording of amendments to this Agreement or Underlying Agreements or of new Underlying Agreements), it being understood that any obligation arising from any such decision, and any effectiveness and implementation thereof, shall be subject to the Parties' written agreement to be executed by the Parties' authorized representatives in accordance with Section 14.1.

3.10 **Cost of Governance and Alliance Management**. The Parties agree that, unless otherwise expressly agreed in this Agreement or any Underlying Agreement, the costs incurred by Moffitt in connection with executive sponsorship, Joint Steering Committee membership, alliance management, financial analysis and compliance, including costs and expenses incurred by Moffitt for participation in Joint Steering Committee meetings (estimated as of the date hereof to be approximately [***] ($[***]) [***]), shall be borne by Company as part of the Total Alliance Funding Amount as the Parties mutually agree in one or more of the Underlying Agreements.

ARTICLE 4 — ALLIANCE BENEFITS

4.1 **Expedited Clinical Trial Activation**

(a) Upon receipt during the Alliance Term of a Notice to Moffitt CCRI' s Alliance Manager requesting accelerated activation for a Clinical Trial that the Parties have agreed to initiate and conduct during the Alliance Term, and that is funded by Company, pursuant to an Underlying Agreement (such notice, the "**Activation Request**"), subject to the provisions of this Section 4.1, Moffitt shall activate such Clinical Trial no later than the end of the period beginning upon Moffitt's receipt of the Activation Request, or such other start time as set forth in this Section 4.1, and ending [***] ([***]) [***], unless such period is otherwise extended as set forth in this Section 4.1 (the "**Activation Period**"). Notwithstanding the foregoing, the Activation Period shall not commence until the Protocol and laboratory manual for such Clinical Trial has been submitted by the applicable Moffitt principal investigator, such principal investigator's designee, or such other Moffitt personnel authorized under Moffitt policies and procedures to the Moffitt Scientific Review Committee (the "**SRC**") and IRB in accordance with Moffitt policies and procedures. Moffitt shall use Commercially Reasonable Efforts to ensure that the principal investigator submits the Protocol and laboratory manual for a given Clinical Trial to the SRC and IRB as promptly as practicable upon completion. A Clinical Trial is deemed to be activated (an "**Activated Clinical Trial**"), and the Activation Period is deemed to be ended, when such Clinical Trial, including the applicable Protocol, Informed Consent, and any HIPAA Authorization has received any necessary

IRB and SRC review and approval in accordance with Moffitt policies and procedures, is entered into Moffitt's clinical trial management system and investigators or their designees for the Clinical Trial are authorized to begin consenting and enrolling subjects. Moffitt shall assign an activation startup coordinator to act as the operational lead from the Moffitt clinical trials office for a Clinical Trial upon submission of the Protocol for such Clinical Trial to the FDA or the SRC, whichever occurs earlier, as part of the activation process undertaken by Moffitt upon receipt of the Activation Request from Company for such Clinical Trial.

(b) In the event Moffitt requires information from Company that Moffitt determines in its reasonable discretion is rate-limiting to the overall Clinical Trial activation process undertaken pursuant to Section 4.1(a), Moffitt may, upon written notice to Company, extend the Activation Period beyond [***] ([***]) [***] by the amount of time needed to obtain such required information from Company. Such rate-limiting information may include, for example, responses to IRB or SRC questions.

(c) In the event an amendment proposed by either Party to the Protocol for a Clinical Trial undergoing activation pursuant to Section 4.1(a) is submitted by Moffitt to the IRB or the SRC as applicable during the Activation Period and requires a change to the Clinical Trial coverage analysis or budget, Moffitt may, within its sole discretion, reset and restart the Activation Period for [***] ([***]) [***].

(d) In the event the FDA requires any change to the Protocol of a Clinical Trial undergoing activation pursuant to Section 4.1(a) during the Activation Period that requires such Clinical Trial to be re-submitted to the SRC or IRB as applicable under Moffitt policies or procedures or Applicable Laws, both Parties will work in good faith to submit the modified Protocol to the SRC and IRB as applicable, and Moffitt may, in its sole discretion and upon written notice to Company, extend the Activation Period [***] ([***]) [***]by the amount of time needed to obtain any required approval by the SRC or IRB as applicable of the modified Protocol. Moffitt also may coordinate filing the IND for such Clinical Trial to the FDA, or corollary to such other applicable Governmental Body, contemporaneously with submitting the Protocol to the SRC in accordance with Moffitt policies and procedures.

4.2 **Enhanced Access to Capabilities and Data**

(a) In accordance with the provisions of this Section 4.2(a), Moffitt shall transfer to Company Clinical Data collected during the Term by Moffitt pursuant to a Clinical Trial conducted by Moffitt and funded by the Company pursuant to an Underlying Agreement. Moffitt shall make such transfers of Clinical Data to Company no later than [***] ([***]) [***] after Moffitt collected the Clinical Data from an enrolled subject and during uploads of Clinical Data that shall occur on a weekly basis or such other cadence as the Parties mutually agree in writing, into a secure folder on a cloud server maintained by Moffitt and shared with Company or through such other reasonable process as the Parties mutually determine at the Joint Steering Committee. Company acknowledges and agrees that Moffitt may monitor such Clinical Data in accordance with the Clinical Trial-specific monitoring plan set forth in the applicable IRB-and SRC-approved Protocol or Research Plan and that may change as amended therein. Moffitt also shall provide standard [***] reports containing Clinical Data to Company as the Parties mutually agree in writing. Moffitt will consider in good faith any *ad hoc* or custom reporting of the Clinical

Data requested by Company and if Moffitt agrees, in its sole discretion, to supply such *ad hoc* or custom report of such Clinical Data to Company, Company shall pay for such ad hoc or custom report in accordance with this Agreement. Notwithstanding anything to the contrary herein, Moffitt will not be obligated to provide Company with access to Moffitt's clinical trial management system. Company may use the Clinical Data only in accordance with any license and other restrictions or requirements set forth in the applicable Underlying Agreement and with the provisions of this Agreement.

(b) During the Alliance Term, Moffitt will provide Company with a reasonable opportunity to review any proposed Informed Consent form and HIPAA Authorization for any Clinical Trial conducted at Moffitt and funded by the Company pursuant to an Underlying Agreement prior to submission of the Protocol for such Clinical Trial to the SRC, and Company will have [***] ([***]) [***] upon receipt of such Informed Consent form and HIPAA Authorization to provide Moffitt with comments on such forms. Moffitt will consider all such comments in good faith and make any modifications to such forms in its sole discretion.

(c) During the Alliance Term and for any Clinical Trial conducted at Moffitt and funded by the Company pursuant to an Underlying Agreement, Company shall have reasonable access to Moffitt's facilities for auditing purposes upon no less than [***] ([***]) [***] advance written notice to Moffitt and at a frequency of no more than [***] ([***]) [***], to all raw Clinical Data, regulatory documents, and other essential documentation related to such Clinical Trial. All such audits will be conducted in accordance with Moffitt's policies and procedures regarding access to its facilities and information systems as well as the provisions of Section 9.3 hereof. Moffitt shall promptly notify Company in the event that any of Company or its designees used to perform such audits under this section are former employees of Moffitt, at which point Company agrees to replace any such former employees if (i) such former employee was involved in patient or subject care, research, or administrative functions associated with the Clinical Trial under audit or (ii) less than [***] ([***]) [***] has elapsed between the date on which the audit will begin as reflected in the notice described in this Section 4.2(c) and the last date of such former employee's employment at Moffitt. The Parties acknowledge and agree that nothing herein provides Company with any rights or legal entitlement to occupy or reside in any portion of the Moffitt's facilities, nor does Company have the right to control Moffitt's facilities or operation thereof.

(d) Notwithstanding any other provision of Section 4.2, the use and disclosure of Clinical Data pursuant to Section 4.2(a) and conduct of audits pursuant to Section 4.2(c) are subject to any applicable restrictions and requirements under any applicable Protocol, Research Plan, Informed Consent, HIPAA Authorization, any other privacy consent required under Applicable Laws, or IRB wavier or alteration thereof, any other applicable terms, policies, or requirements, as well as the provisions of Section 9.2 hereof.

4.3 **Key Opinion Leader Roundtable**

(a) During the Alliance Term and upon Notice to Moffitt CCRI's Alliance Manager, Moffitt CCRI will make available Moffitt key opinion leaders which shall be selected by the Joint Steering Committee after review and discussion (each a "**KOL**") to participate in educational and information-sharing consultative sessions (each a "**KOL Session**") with Company

on various topics of interest to and as requested by Company. Such topics of such KOL Sessions may include, for example, [***]. Notwithstanding the foregoing, KOL Sessions are not intended to, nor shall they, replace or exclude Company from seeking to develop relationships for consulting purposes with key investigators and other Moffitt KOLs that are involved in joint development of clinical protocols under this Agreement, subject in all instances to Applicable Laws, including as set forth in Section 9.2(a), Moffitt policies and procedures, and the terms of any agreement between Moffitt and such investigators or other KOLs.

(b) The total number of KOL Sessions will not exceed [***] ([***]) [***] in any calendar year, and [***] ([***]) [***] unless mutually agreed by the Parties. Each KOL Session will be no longer than [***] ([***]) [***] unless mutually agreed by the Parties.

(c) Notwithstanding anything to the contrary in this Section 4.3, Moffitt's obligations to Company relating to KOL Sessions, including the participation of KOLs in connection with such KOL Sessions, is subject to any and all restrictions under Applicable Laws, including as set forth in Section 9.2(a), and any policies and procedures of Moffitt that are provided in advance to Company.

4.4 **Expanded Access to Gene Sequencing Data Sets and Corresponding Electronic Medical Record Data**

(a) During the Alliance Term upon Notice to Moffitt CCRI's Alliance Manager, Moffitt will, as set forth in this Section 4.4, provide Company with a license for access to up to [***] ([***]) Datasets (or more if mutually agreed to by the Parties) selected by Company from any of the following Moffitt proprietary data: [***] (such Moffitt proprietary datasets, collectively, the "**Moffitt Genomic Data Sets**"), in addition to the curated data from the Moffitt electronic medical record corresponding to each selected Dataset from the Moffitt Genomic Data Sets (such selected clinical and genomic datasets, the "**Licensed Data Set**").

(b) If Company seeks to receive as part of the Licensed Data Set any clinical data corresponding to a Dataset in the Moffitt Genomic Data Sets that Moffitt has not already curated, Moffitt and Company shall develop a data dictionary to describe the additional clinical data elements requested by Company, and Company shall pay for the collection and transmission of such additional clinical data elements from the Cancer Center Genomic Data Sets in accordance with this Agreement. For clarity, any additional clinical data elements corresponding to a Dataset included in the Moffitt Genomic Data that are collected, curated, and transmitted by Moffitt to Company pursuant to this Section 4.4(b) shall be deemed to be included in "**Licensed Data Set**" as defined in Section 4.4(a).

(c) The Parties shall enter into an appropriate Underlying Agreement (which for clarity may be a statement of work, exhibit, or similar document) that includes appropriate details regarding the nature of any Licensed Data Set to be provided by Moffitt to Company pursuant to this Section 4.4; provided that Moffitt may grant a non-exclusive, sublicensable (through multiple tiers), worldwide, perpetual, fully paid up license to Company to use the Licensed Data Set for all purposes permitted by Applicable Laws, except that Company may use the Licensed Data Set only in accordance with any other reasonably necessary restrictions or requirements set forth in the applicable Underlying Agreement and with the provisions of this Agreement.

(d) Notwithstanding anything to the contrary contained in this Section 4.4, Moffitt's obligations relating to provision of the Licensed Data Set, and the scope of permitted future use by Company of such Licensed Data Set are subject to any and all requirements and restrictions under applicable Informed Consent, HIPAA Authorizations, IRB waivers or alterations thereof, Protocols, Applicable Laws, and any other applicable terms, policies, or requirements, as well as the provisions of Sections 9.2 and 9.3 hereof. Furthermore, Company must not link or attempt to link any data within the Licensed Data Set with any Third Party data sets.

4.5 **Expanded Access to Biospecimens and Clinical Research Samples**

(a) During the Alliance Term and upon Notice to Moffitt CCRI's Alliance Manager, Moffitt will provide Company with [***] ([***]) [***] excess Biospecimens ([***]) collected from human subjects enrolled in any Clinical Trial: (i) conducted at Moffitt and funded by the Company pursuant to an Underlying Agreement, irrespective of whether such Clinical Trial is sponsored by Company or is a Moffitt-initiated study, and (ii) that is or becomes a Clinical Trial into which subjects may begin to be consented and enrolled by investigators after review and approval of the Clinical Trial by the SRC and IRB as required by Moffitt policies and procedures and entry of the Clinical Trial into Moffitt's clinical trial management system (such allocated Biospecimens, the "**Clinical Trial Biospecimens**"). For the purposes of this Section 4.5(a), "**excess**" is defined as [***].

(b) The Parties shall enter into an appropriate Underlying Agreement (which for clarity may be a statement of work, exhibit, or similar document) that includes appropriate details regarding the nature of any Clinical Trial Biospecimens to be provided by Moffitt to Company pursuant to this Section 4.5; provided that Moffitt shall grant a nonexclusive, sublicensable (through multiple tiers), worldwide, perpetual, royalty free, fully paid up license to Company to use the Clinical Trial Biospecimens for all purposes permitted by Applicable Laws and in accordance with any other reasonably necessary restrictions or requirements set forth in the applicable Underlying Agreement and with the provisions of this Agreement. Without limiting any other provision of this Agreement, Company will not: (i) [***], or (iii) [***]. Company acknowledges that the Clinical Trial Biospecimens are experimental in nature and may have unknown characteristics and therefore agrees to use prudence and reasonable care in the use, handling, storage, transportation, disposition and containment of Clinical Trial Biospecimens. Company warrants that its laboratories are properly equipped and certified to handle, use and store the Clinical Trial Biospecimens.

(c) Moffitt shall determine, after consideration of any input provided by Company, whether Clinical Trial Biospecimens will be stored at Moffitt or Company. Company shall store any Clinical Trial Biospecimens sent to Company for storage in accordance with the foregoing under storage conditions specified by Moffitt and only for a maximum of [***] ([***]) [***] from Company's receipt of such Biospecimens. After such [***] ([***]) [***] period and upon receipt of a written request from Moffitt, Company shall, as directed by Moffitt, destroy or return to Moffitt any remaining Clinical Trial Biospecimens stored at Company. Moffitt may, in its discretion, destroy any Clinical Trial Biospecimens returned to Moffitt or stored at Moffitt any time after [***] ([***]) [***] from Company's initial request for such Clinical Trial Biospecimens.

(d) For so long as Company is in possession of Clinical Trial Biospecimens (but in any event for not more than [***] ([***]) [***] after receipt by Company of such Clinical Trial Biospecimens), Company shall provide to Moffitt, at least once every [***] ([***]) [***], a summary of all studies conducted by Company using the Clinical Trial Biospecimens. For purposes of this Agreement, the information disclosed by Company to Moffitt in accordance with this Section 4.5(d) shall constitute Confidential Information of Company subject to the terms of this Agreement including, without limitation, Article 8 (Confidential Information).

(e) The Party that is the sponsor of the applicable Clinical Trial shall ensure that the applicable Protocol for the Clinical Trial, any Informed Consent, HIPAA Authorization or other privacy consent required under Applicable Laws, and any IRB waivers or alterations of Informed Consent, HIPAA Authorization, or other privacy consent (as applicable) include any necessary description of and otherwise satisfies any applicable requirements for the retention, use, and sharing of residual Biospecimens obtained under the Clinical Trial as set forth under this Section 4.5.

(f) Notwithstanding anything to the contrary contained in this Section 4.5, Moffitt's obligations under this Agreement relating to Clinical Trial Biospecimens are subject to any and all requirements and restrictions under applicable Informed Consents, HIPAA Authorizations, other privacy consents required under Applicable Laws, IRB waivers or alterations thereof, Protocols, IRB review, determinations, and approvals, Applicable Laws, and any other applicable terms, policies, or requirements, as well as the provisions of Sections 9.2 and 9.3 hereof. Subject to Company's performance of its obligations under Section 4.5(d) where Company is the sponsor of the applicable Clinical Trial, Moffitt agrees to use reasonable efforts to obtain all necessary Informed Consents, HIPAA Authorizations, privacy consents, and/or IRB waivers or alterations thereof to allow Company to receive the Clinical Trial Biospecimens for use as set forth under this Agreement. Reasonable efforts shall be deemed to include amending, upon Company's request, then-current Protocols where Moffitt is the sponsor of the applicable Clinical Trial.

4.6 **Expanded Access to Biospecimens and Sponsored Research Samples**

(a) During the Alliance Term and upon Notice to Moffitt CCRI's Alliance Manager, Moffitt will provide Company with excess Biospecimens collected from human subjects pursuant to any Sponsored Research conducted by the Parties and funded by Company pursuant to a Research Plan included in the Underlying Agreements and as agreed under the project scope set forth in the applicable Research Plan, or as otherwise agreed to by the Parties (the "**SR Biospecimens**").

(b) During the Alliance Term, Moffitt will also provide Company, as part of the SR Biospecimens, a subset of mutually agreed upon "**intermediate/in-process**" research Biospecimens generated under any of such Research Plans for additional characterization. For the purposes of this Section 4.6, Biospecimens that are "**intermediate/in-process**" means Biospecimens aliquoted at various interim stages of the Company TIL protocol conducted at research scale.

(c) The Parties shall enter into an appropriate Underlying Agreement (which for clarity may be a statement of work, exhibit, or similar document) that includes appropriate details regarding the nature of any SR Biospecimens to be provided by Moffitt to Company pursuant to this Section 4.6; provided that Moffitt shall grant a non-exclusive, sublicensable (through multiple tiers), worldwide, perpetual, royalty free, fully paid up license to Company to use the SR Biospecimens for all purposes permitted by Applicable Laws and in accordance with any other reasonably necessary restrictions and requirements set forth in the applicable Underlying Agreement and with the provisions of this Agreement. Without limiting any other provision of this Agreement, Company will not: (i) [***], (ii) [***] (iii) [***]. Company acknowledges that SR Biospecimens are experimental in nature and may have unknown characteristics and therefore agrees to use prudence and reasonable care in the use, handling, storage, transportation, disposition and containment of SR Biospecimens. Company warrants that its laboratories are properly equipped and certified to handle, use and store the SR Biospecimens.

(d) Moffitt shall determine, after consideration of any input provided by Company, whether SR Biospecimens will be stored at Moffitt or Company. Company shall store any SR Biospecimens sent to Company for storage in accordance with the foregoing under storage conditions specified by Moffitt and only for a maximum of [***] ([***]) [***] from Company's receipt of such Biospecimens. After such [***] ([***]) [***] period and upon receipt of a written request from Moffitt, Company shall, as directed by Moffitt, destroy or return to Moffitt any remaining SR Biospecimens stored at Company. Moffitt may, in its discretion, destroy any SR Biospecimens returned to Moffitt or stored at Moffitt at Moffitt's discretion any time after [***] ([***]) [***] from Company's initial request for such SR Biospecimens.

(e) For so long as Company is in possession of SR Biospecimens (but in any event for not more than [***] ([***]) [***] after receipt by Company of such Clinical Trial Biospecimens), Company shall provide to Moffitt, at least once every [***] ([***]) [***], a summary of all studies conducted by Company using the SR Biospecimens. For purposes of this Agreement, the information disclosed by Company to Moffitt in accordance with this Section 4.6(e) shall constitute Confidential Information of Company subject to the terms of this Agreement including, without limitation, Article 8 (Confidential Information).

(f) Company shall ensure that the applicable Protocol for the Clinical Trial, any Informed Consent, HIPAA Authorization or other privacy consent required under Applicable Laws, and any IRB waiver or alteration of Informed Consent, HIPAA Authorization, or other privacy consent (as applicable) include any necessary description of and otherwise satisfies any applicable requirements for the retention, use, and sharing of residual Biospecimens obtained under the Clinical Trial as set forth under this Section 4.6.

(g) Notwithstanding anything to the contrary contained in this Section 4.6, Moffitt's obligations under this Agreement relating to SR Biospecimens are subject to any and all requirements and restrictions under applicable Informed Consents, HIPAA Authorizations, other privacy consents required under Applicable Laws, IRB waivers or alterations thereof, Protocols, IRB review, determinations, and approvals, Applicable Laws, and any other applicable terms, policies, or requirements, as well as the provisions of Sections 9.2 and 9.3 hereof. Subject to Company's performance of its obligations under Section 4.6(e), Moffitt agrees to use reasonable efforts to obtain all necessary Informed Consents, HIPAA Authorizations, privacy consents, and/or

IRB waivers or alterations thereof to allow Company to receive the SR Biospecimens for use as set forth under this Agreement. Reasonable efforts shall be deemed to include amending, upon Company's request, then-current Protocols where Moffitt is the sponsor of the applicable Clinical Trial.

4.7 **Priority Cell Manufacturing**

(a) During the Alliance Term and with respect to any cell therapy manufacturing being conducted by Moffitt for Company, Moffitt shall provide Company with [***] ([***]) priority manufacturing slots (each a "**Priority Slot**") during each [***] that, subject to Section 4.7(b), shall be used for cell therapy manufacturing for (i) [***], (ii) [***], or (iii) [***] [***] for any Clinical Trial that is conducted by Moffitt and funded by Company under a Post Hoc Underlying Agreement regardless of which Party holds the IND for such Clinical Trial. For clarity, these [***] ([***]) Priority Slots are separate from and in addition to manufacturing activities associated with banking of TIL Biospecimens collected by Moffitt at risk, prior to immune checkpoint inhibitor treatment (pre-REP only Biospecimens).

(b) Unless Moffitt is conducting cell therapy manufacturing for Company in [***] ([***]) Priority Slots in any calendar month under an Underlying Agreement, then on the [***] ([***]) [***] (the "**Manufacturing Notice Date**"), Moffitt shall request in writing from Company a confirmation regarding the number, if any, of Priority Slots Company will be using for cell therapy manufacturing during the immediately following [***]. Company shall respond within [***] ([***]) [***] following the Manufacturing Notice Date (the "**Company Response Period**"). In the event that Company confirms that it does not require [***] ([***]) Priority Slots in the [***], or if Company fails to respond to Moffitt prior to the expiration of the Company Response Period, then, from and after the expiration of the Company Response Period until last day of the [***], Moffitt shall be entitled to use any non-required Priority Slot for its internal purposes or other projects. In the event Company requires more than [***] ([***]) full manufacturing slots in a given [***]based upon identified human subjects in a Clinical Trial funded by Company pursuant to an Underlying Agreement and real-time discussions with Moffitt's clinical trial coordinator, Company may request that Moffitt increase the number of full manufacturing slots beyond [***] ([***]) [***]. Company will use good faith efforts to give Moffitt notice of such request at least [***] ([***]) [***] prior to the beginning of the [***]in which such extra full manufacturing slots are required. Upon Notice to Moffitt CCRI's Alliance Manager, Moffitt will provide such additional manufacturing slots to Company if they are available as determined by Moffitt in its sole discretion.

(c) For manufacturing for engineering runs, validation runs, and Clinical Trials conducted by Moffitt and funded by the Company pursuant to an Underlying Agreement during the Alliance Term, Moffitt will provide product raw and processed characterization data and analysis as mutually agreed upon with Company, within [***] ([***]) [***] of product release. In addition, for Clinical Trials for which Company holds the IND, Moffitt will provide Company with the necessary drug substance and drug product within [***] ([***]) [***], for similar or additional characterization upon Company's request. For Clinical Trials in which Moffitt holds the IND, the Moffitt Cell Therapies Core Facility and relevant Moffitt principal investigator for such Clinical Trial shall use reasonable efforts to provide to Company [***] ([***]) [***] cGMP drug substance, drug product and in process intermediates for similar or additional characterization. For purposes of determining the foregoing [***].

(d) The respective Moffitt and Company quality assurance and quality control leadership team members will meet quarterly during the Alliance Term to review manufacturing performance, deviations, release/characterization testing data and trends of all manufacturing data collected to date. Such quarterly meetings may occur as part of the Joint Steering Committee meetings, subject to compliance with Article 3. At the beginning of each new engineering run or validation run conducted during the Alliance Term, or any Clinical Trial conducted at Moffitt and funded by Company under an Underlying Agreement during the Alliance Term, Company shall provide Moffitt with a description of the data sets Company wishes to receive at such quarterly meetings, and Moffitt will provide such data sets to Company [***] ([***]) [***] prior to each quarterly meeting.

(e) During the Alliance Term, Moffitt will provide Company with access to field copies of batch records and analytical raw data from cell therapy manufacturing on an ongoing basis upon Company's reasonable request. Company shall pay for access to such batch records and analytical raw data as agreed in the relevant Underlying Agreement, which payment shall be creditable against the Total Alliance Funding Amount as described in Section 5.2.

(f) During the Alliance Term, Moffitt shall implement improvements to the cell therapy manufacturing process that are directed toward increasing product efficacy or reducing time for product manufacturing for Clinical Trials for which Company holds the IND upon request by Company. Company may also request that Moffitt implement improvements to the cell therapy manufacturing process for Clinical Trials in which Moffitt holds the IND, which Moffitt, through consultations by and between the Moffitt Cell Therapies Core Facility and relevant Moffitt principal investigator, will decide whether to approve and implement in its sole discretion. For improvements to the cell therapy manufacturing process requested by Company that are described by Company as, and determined by the Moffitt Executive Sponsor to be, critical to product development and maintaining comparability across Company-held INDs, Moffitt will use reasonable efforts to consider incorporating the changes, and to incorporate any acceptable changes, in a timely manner. Company shall pay the fees and costs for any improvements under this Section 4.7(f) as agreed in the relevant Underlying Agreement, which payment shall be creditable against the Total Alliance Funding Amount as described in Section 5.2.

4.8 **Expedited Clinical Trial Amendment Enrollment**. During the Alliance Term, Moffitt will obtain approval by the SRC and, as necessary for Moffitt's conduct of the Clinical Trial, IRB of any Protocol amendment for a Clinical Trial conducted by Moffitt and funded by the Company pursuant to an Underlying Agreement that is requested by Company within [***] ([***]) [***] (the "**Amendment Period**"). Notwithstanding the foregoing, such Amendment Period will be reset and restarted upon Company submitting any additional amendment to the Protocol that requires any modification to the Clinical Trial coverage analysis or budget.

4.9 **Enhanced Screening for Clinical Trials**

(a) During the Alliance Term, Moffitt will assign a trial navigator to each newly opened Clinical Trial conducted by Moffitt and funded by the Company pursuant to an Underlying

Agreement to seek to identify Moffitt patients who may be eligible for such Clinical Trial, and to receive calls from referring physicians regarding potentially eligible patients for such Clinical Trial, in each case subject to Applicable Laws, cGCP, IRB requirements, and Moffitt policies.

(b) During the Alliance Term, Moffitt will provide Company with [***] screening reports that are de-identified in accordance with HIPAA and that summarize the individuals approached by Moffitt regarding their potential eligibility for any Clinical Trial (as well as any rationale expressed by eligible patients or their caregivers as to a decision to not participate in such Clinical Trial) described in Section 4.9(a), subject to any applicable IRB-and SRC-approved Protocol, Research Plan, Informed Consent, HIPAA Authorization, any other privacy consent required under Applicable Laws, or IRB wavier or alteration of Informed Consent, HIPAA Authorization, or other privacy consent (as applicable), as well as the provisions of Section 9.2 hereof.

4.10 **Exclusivity**. Moffitt CCRI shall prohibit any Moffitt CCRI employee faculty member who serves as the designated principal investigator on any Laboratory Study sponsored by Company and conducted by Moffitt pursuant to an Underlying Agreement (each such Laboratory Study, an "**Exclusive Alliance Lab Study**") from [***].

ARTICLE 5 — ALLIANCE PROJECT FUNDING

5.1 **Alliance Funding**

(a) In partial consideration of the Alliance Benefits, licenses and other rights granted by Moffitt to Company under this Agreement, Company shall pay to Moffitt CCRI additional alliance funding in the amount of in total Seventeen Million Five Hundred Thousand US Dollars ($17.5 million) (the "**Total Alliance Funding Amount**"). The Total Alliance Funding Amount is exclusive of the amounts paid or payable by Company to Moffitt pursuant to the Underlying Agreements; provided that amounts paid or payable by Company to Moffitt pursuant to the Post Hoc Underlying Agreements shall be charged against the Total Alliance Funding Amount pursuant to Section 5.1(c).

(b) The Total Alliance Funding Amount shall be payable by Company in five (5) equal annual installments (each a "**Target Funding Amount**") in accordance with the following schedule; provided that the Target Funding Amount may be adjusted pursuant to Section 5.3:

Funding Date	Target Funding Amount
First year anniversary of the Effective Date	$ 3 5 million
Second year anniversary of the Effective Date	$ 3 5 million
Third year anniversary of the Effective Date	$ 3 5 million
Fourth year anniversary of the Effective Date	$ 3 5 million
Last date of the Alliance Term	$ 3 5 million

(c) Company shall pay the Target Funding Amount to Moffitt CCRI pursuant to Section 5.2(b).

5.2 **Crediting of Payments under Alliance Projects; Reconciliation**

(a) **Payments Under the Post Hoc Underlying Agreements**. All fees, costs, expenses and other payments payable by Company to Moffitt pursuant to the Post Hoc Underlying Agreements shall be invoiced by Moffitt and shall be paid by Company as set forth in the relevant Post Hoc Underlying Agreement. Each Post Hoc Underlying Agreement will include budgets for any such fees, costs, expenses and other payments with standard industry pricing mutually agreed by the Parties. Company acknowledges and agrees that Moffitt is under no obligation to offer or apply any discount, rebate, waiver, or the like to any such fees, costs, expenses, or other payments payable by Company. For clarity, all fees, costs, expenses and other payments payable by Company to Moffitt pursuant to any Underlying Agreement that is not an Post Hoc Underlying Agreement shall be invoiced by Moffitt and shall be paid by Company as set forth in such Underlying Agreement.

(b) **Annual Funding True-Up Amount**. Within [***] ([***]) [***] following the end of each year of the Alliance Term, Moffitt CCRI shall calculate the aggregate payments made by Company to Moffitt under the Post Hoc Underlying Agreements through (and including) the end of such year and shall calculate the amount, if any, by which the Target Funding Amount for such year (as may be adjusted from time to time in accordance with Section 5.3) exceeds the amount of fees, costs, expenses and other payments actually paid by Company to Moffitt under the Post Hoc Underlying Agreements through (and including) the end of such year (the "**Annual Funding True-Up Amount**"). Promptly upon such calculation, Moffitt CCRI shall invoice the Annual Funding True-Up amount, if any, to Company. Within [***] ([***]) [***] following Company's receipt of the invoice from Moffitt CCRI, Company shall pay to Moffitt CCRI in cash Annual Funding True-Up Amount. For illustrative purposes only, the first Annual Funding True-Up Amount, if any, shall be an amount equal to (i) the first Target Funding Amount indicated in the table in Section 5.1(b) *minus* (ii) the sum of all amounts paid by Company to Moffitt during the first year of the Alliance Term (in other words: during a period from the Effective Date to the first year anniversary of the Effective Date) under the Post Hoc Underlying Agreements.

(c) **Reconciliation**. In consideration of the payment by Company to Moffitt CCRI of the Annual Funding True-Up Amount, Moffitt shall not invoice Company for any fees and expenses under the Post Hoc Underlying Agreements for the then current year of the Alliance Term unless and until such amounts exceed the Annual Funding True-Up Amount paid by Company for the immediately preceding year of the Alliance Term. To the extent Moffitt CCRI receives any income attributable to any services, licenses or other arrangements (including Alliance Benefits) provided by any Subsidiary to Company, Moffitt CCRI shall be responsible for properly allocating such income to the appropriate Subsidiary providing such specific services, licenses or other arrangements (including Alliance Benefits) to Company.

5.3 **Funding Adjustment**. After each year of the Alliance Term during which the amounts paid by Company to Moffitt under the Post Hoc Underlying Agreements exceed the amount of the Target Funding Amount (as may be adjusted from time to time in accordance with this Section 5.3) for such expired year, the Target Funding Amount for each of the following years of the Alliance Term (yet not for the then current year) shall be reduced to the amount determined by dividing (a) the remainder of (i) the Total Alliance Funding Amount *minus* (ii) the total of all amounts paid by Company to Moffitt under the Post Hoc Underlying Agreements up until the date of such calculation *by* (b) the total number of years remaining in the Alliance Term. For clarity, an adjustment of the first Target Funding Amount indicated in the table in Section 5.1(b) will not occur, because the earliest possible adjustment of a Target Funding Amount could apply only for the second Target Funding Amount indicated in the table in Section 5.1(b). The Parties agree and acknowledge that such adjustment may not be applicable after a given year of the Alliance Term (or even not at all), if the amounts paid by Company to Moffitt under the Post Hoc Underlying Agreements do not exceed the (then applicable, possibly adjusted) amount of the Target Funding Amount for such year. If the amounts paid by Company to Moffitt under the Post Hoc Underlying Agreements in a given year are equal to or less than the (then applicable, possibly adjusted) amount of the Target Funding Amount for such year, the relevant Target Funding Amount shall continue to apply for the current and each of the following years of the Alliance Term. In no event shall Moffitt be obliged to refund or credit to Company any amounts paid by Company to Moffitt under the Post Hoc Underlying Agreements which exceed the Target Funding Amount for such year during the final year of the Alliance Term.

ARTICLE 6 — FURTHER FINANCIAL TERMS AND RELATED OBLIGATIONS

6.1 **Equity Issuance to Moffitt**. In partial consideration of the Alliance Benefits, licenses and other rights granted by Moffitt to Company under this Agreement, Company shall issue to Moffitt CCRI up to Three Million Six Hundred Sixty Three Thousand And Three (3,663,003) unregistered shares of common stock in Company (the "**Moffitt Alliance Shares**") in accordance with Section 6.2. The Moffitt Alliance Shares shall have the rights and obligations set forth for common stock in the then-effective Certificate of Incorporation and By-laws of the Company. Company will grant to Moffitt CCRI, as owner of such Moffitt Alliance Shares, the right to review and the right to enter into, without limitation, any voting agreement, investors' rights agreement, right of first refusal and co-sale agreement or stockholders' agreement to the same extent any owner of common stock of Company has such rights regarding any such agreement.

6.2 **Issuance of Moffitt Alliance Shares**.

(a) The Moffitt Alliance Shares shall be issued in accordance with the following issuance schedule (each an "**Equity Milestone**"):

Equity Milestone	Number of Shares
Execution and delivery of this Agreement by each of the Parties	732,600
[***]	[***]
[***]	[***]
[***]	[***]
[***]	[***]
Total Shares	3,663,003

(b) Each of the foregoing Equity Milestones shall apply only once, regardless of whether there is more than one TIL Product that achieves such Equity Milestone; provided, however, that each Equity Milestone does need not be achieved by the same TIL Product. Each applicable number of Moffitt Alliance Shares shall vest upon achievement of the related Equity Milestone, irrespective of whether such Equity Milestone is achieved by Company, its Affiliate, their respective Collaboration Partner or any other Third Party acting on behalf of Company, any of its Affiliates, or any of their respective Collaboration Partners.

(c) The achievement of each Equity Milestone event shall automatically trigger any previous Equity Milestone event not already achieved. The achievement of the "**Regulatory Approval**" Equity Milestone shall trigger the issuance of all Moffitt Alliance Shares that had not previously vested (in the case, for example, of accelerated Regulatory Approval after a Phase 2 Clinical Trials). For clarity, in the event that a given Equity Milestone is realized but any Equity Milestone that constitutes a prior step was never realized (and, accordingly, had not triggered the issuance of the respective number of Moffitt Alliance Shares yet), such prior Equity Milestone shall automatically be deemed to have occurred and shall trigger the issuance of the corresponding number of Moffitt Alliance Shares simultaneously with the later, actually realized Equity Milestone.

(d) In case of expiry or early termination of this Agreement, except in the case of termination by Company pursuant to Section 12.2 or 12.3 or any termination pursuant to 12.5, all unissued Moffitt Alliance Shares shall remain unissued and, in each case, shall continue to issue subject to the achievement of the applicable Equity Milestone. Any Moffitt Alliance Shares that have not been issued prior to the date that is [***] ([***]) [***] following the Effective Date shall be surrendered by Moffitt CCRI to Company without the payment by Company of any consideration. Upon a Change of Control Event in Company, all unissued Moffitt Alliance Shares shall remain unissued and, in each case, shall continue to be issued (commensurate with the consideration received by other shareholders of common stock of the Company) subject to the achievement of the applicable Equity Milestone.

(e) Company shall provide Moffitt CCRI with such quarterly and annual financial statements that are made available to any other holder of Company's equity (simultaneously therewith), and such other information relating to the financial condition, business, prospects, or corporate affairs of Company as Moffitt CCRI may from time to time reasonably request.

6.3 **Rights of Moffitt CCRI to Dispose of Equity**

(a) [***].

(b) In the event of any public offering of securities of the Company, Moffitt CCRI shall be granted registration rights commensurate with other shareholders of common stock with respect to all issued Moffitt Alliance Shares held by Moffitt CCRI. Any such registration rights shall be consistent with the then form registration rights agreement of the National Venture Capital Association model legal documents (to the extent then available).

(c) In connection with any IPO, Moffit will not, without the prior written consent of the managing underwriter and the Company's Board of Directors, during the period commencing on the effective date of the registration statement for the IPO and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days, which period may be extended upon the request of the managing underwriter, to the extent required by any NASD rules, for an additional period of up to [***] ([***]) [***] if the Company issues or proposes to issue an earnings or other public release within [***] ([***]) [***] of the expiration of the 180-day lockup period) (the "**Lock-up Period**") sell or otherwise transfer to a third party any of the Moffitt Alliance Shares held by Moffitt CCRI. The Lock-up Period shall apply only to the IPO, and upon expiration of the Lock-up Period Moffitt CCRI may sell or otherwise transfer up to [***] ([***]) of the issued Moffitt Alliance Shares then held by Moffitt CCRI, and Moffitt CCRI may sell or otherwise transfer any of the remainder of such issued Moffitt Alliance Shares after the expiration of the [***] ([***])- [***] period immediately following the expiration of the Lock-up Period.

(d) With respect to any Moffitt Alliance Shares held by Moffitt CCRI and that are issued after the IPO Lock-up Period, Moffitt CCRI may sell or otherwise transfer up to fifty percent (50%) of such newly issued shares upon the date of such issuance, and Moffitt CCRI may sell or otherwise transfer any of the remainder of such newly issued Moffitt Alliance Shares ninety (90) days such issuance date.

6.4 **Sales Milestones**.

(a) In partial consideration of the Alliance Benefits, licenses and other rights granted by Moffitt to Company under this Agreement, Company shall pay to Moffitt CCRI the following non-refundable, non-creditable and non-cancellable sales milestone payments based on the aggregate, cumulative Net Sales of all TIL Products worldwide, each due and payable upon occurrence of the following sales milestone events (each a "**Sales Milestone Event**"):

Sales Milestone Event	**Milestone Amount**
[***]	[***]
[***]	[***]
[***]	[***]
Total Sales Milestone Payments	$ 50.0 million

(b) Each of the Sales Milestone Events may only be triggered once and themaximum amount to be paid by Company to Moffitt CCRI in form of corresponding milestone payments (and only if all Sales Milestone Events occur) shall not exceed $50.0 million. Each of the foregoing milestone payments shall become payable upon achievement of the related Sales Milestone Event, irrespective of whether the sales constituting such Sales Milestone Event are achieved by Company or by its Affiliate(s) or by its Collaboration Partner(s).

6.5 **Diligence Obligations of Company**. Company shall use Commercially Reasonable Efforts to Develop TIL Products, to manufacture TIL Products, to obtain Regulatory Approval for [***] ([***]) [***] and to Commercialize TIL Products [***]. The Development of the TIL Products shall be governed by a development plan that outlines, in reasonable detail, the proposed overall program of Development, major Development milestones and such Development and Manufacturing activities as required to obtain Regulatory Approval for the TIL Product and to launch the TIL Product, in each case with anticipated timelines for completion (the "**Development Plan**"). In addition to its reporting obligations pursuant to Section 6.6(c), Company shall present to Moffitt CCRI [***] ([***]) [***] a high level summary of the then current Development Plan together with of any material updates that have occurred since the previous presentation. Such presentation may be performed in form of a written report or an MS PowerPoint® presentation.

6.6 **Notification and Reporting Obligations of Company**

(a) **Equity Milestones Notification**. Company shall inform Moffitt CCRI of the occurrence of any of the Equity Milestones [***] ([***]) [***] after the occurrence of any such event.

(b) **Sales Milestones Notification**. Upon the first launch of a TIL Product, Company shall, within [***] ([***]) [***], furnish to Moffitt CCRI a detailed, written annual report showing, on a TIL Product-by-TIL Product and country-by-country basis the amount of Net Sales of a TIL Product sold by Company, its Affiliates or their respective Collaboration Partners during the reporting period, the exchange rates used in determining the amount of US Dollar; and any other information reasonably requested by Moffitt CCRI and required to assess the calculation of Net Sales for determination of Sales Milestone Events. In addition to this regular reporting, Company shall inform Moffitt CCRI of the occurrence of each Sales Milestone Event [***] ([***]) [***] after the end of the calendar year in which such event occurred.

(c) **Development and Commercialization Reporting**. During the Alliance Term, and within [***] ([***]) [***], Company shall provide Moffitt CCRI with a written report summarizing in reasonable detail its Development and, as applicable, Manufacturing and Commercialization activities conducted during the preceding calendar year. Each report shall outline in reasonable detail the current status of Development activities, including regulatory activities and the current status of Manufacturing and Commercialization activities. Each such report shall cover the full period since the end of the reporting period covered by the previous report. Upon expiry of the Alliance Term, the reporting obligations under this Section 6.6(c) shall (i) survive such expiry, (ii) convert into [***]reporting obligations and (iii) continue until the earlier of (A) [***] and (B) [***] ([***]) [***] the date that Company is no longer engaged in any Development, Manufacturing or Commercialization activities with respect to any TIL Product.

6.7 **Payment Terms; Audit Rights**

(a) All payments to Moffitt CCRI hereunder by Company will be in United States currency and will be by check, wire transfer, money order, or other method of payment approved by the Parties. Unless otherwise set forth in this Agreement, Moffitt CCRI will provide Company with invoices each setting forth the account of any payments payable by Company and the amounts set forth in each such invoice will be due and payable within [***] ([***]) [***] of receipt of such invoice by Company.

(b) **Audit Right by Company**. Company shall have the right to audit any necessary documents associated with invoices from Moffitt CCRI either by itself or by a certified public accountant ("**CPA**") reasonably acceptable to Moffitt CCRI. Except to the extent expressly provided otherwise in an Underlying Agreement, (i) Moffitt CCRI shall pay the costs and expenses of the audit contemplated by this Section 6.7(b) in the event such audit reveals a difference of [***] ([***]) [***] between the amounts Company is invoiced by Moffitt CCRI and the amount that Company should have been invoiced by Moffitt CCRI and (ii) Company shall pay the expenses of the audit contemplated by this Section 6.7(b) in the event such audit reveals a difference between such amounts of [***] ([***]). Any amounts owed by Moffitt CCRI to Company under this Section 6.7(b) shall by applied as a credit against the next invoice to Company (or if no more invoices are required Moffitt CCRI shall promptly pay to Company such amount).

(c) **Audit Right by Moffitt**. Moffitt CCRI shall have the right, during regular business hours, to conduct inspections, audits and investigations of Company's, its Affiliates' or their respective Collaboration Partners' records related to the Commercialization of the TIL Products (i) to confirm the accuracy of all reports furnished by Company to Moffitt CCRI under this Agreement relating to Net Sales and the payment of milestones relating thereto. Such inspection, audit and investigation may be conducted either by Moffitt CCRI itself or by a CPA reasonably acceptable to Company. Such audit shall take place not more often than [***]during normal business hours, unless the previous audit revealed a default of Company, any of its Affiliates or any of their respective Collaboration Partners in which case Moffitt CCRI shall be entitled to conduct [***] ([***]) [***] in the following [***] ([***]) [***]. Except to the extent expressly provided otherwise in an Underlying Agreement, any audit conducted under this Section 6.7(c) shall be at Moffitt CCRI's expense unless such audit reveals a misstatement of more than [***] ([***]) in the calculation of Net Sales in which case, without any prejudice to or limitation of additional rights of Moffitt CCRI under this Agreement or Applicable Laws, Company shall reimburse Moffitt CCRI for all reasonable costs and expenses incurred by Moffitt CCRI in connection with such audit.

ARTICLE 7 — INTELLECTUAL PROPERTY

7.1 **Intellectual Property Arising from Underlying Agreements**. The Parties agree that any provisions set forth in the Underlying Agreements regarding (a) the ownership and allocation of Intellectual Property between the Parties, (b) the assignment and transfer of all of a Party's right, title and interest in and to any Intellectual Property to the other Party, (c) mutual or, as applicable, unilateral licenses granted by one Party to the other Party under any Intellectual Property and (d) the Parties' rights and obligations to file, prosecute, maintain and enforce patent applications and patents claiming any Intellectual Property will continue to apply to the Parties in

accordance with the terms of the relevant Underlying Agreement. The Parties agree that such provisions described in (a) through (d) of this Section 7.1 shall extend to all Alliance Benefits provided pursuant to this Agreement in connection with such Services, Projects or other activities agreed in such Underlying Agreements.

7.2 **Background Intellectual Property**. Each Party shall own and retain any and all right, title or interest in any Intellectual Property (a) owned, used, licensed or controlled by such Party or its Affiliates prior to the Effective Date, (b) developed independently of this Agreement or otherwise conceived, devised, created, or reduced to practice by such Party outside of this Agreement, or (c) modifications to any of the foregoing made in connection with this Agreement (collectively, "**Background Intellectual Property**"). The Parties agree and acknowledge that Background Intellectual Property of a Party may include such Intellectual Property that (i) is developed under any Underlying Agreement and (ii) is allocated to such Party pursuant to the provisions on allocation of Intellectual Property pursuant to such other Underlying Agreement.

7.3 **Prosecution, Maintenance, Enforcement and Defense of Patent Rights**.

(a) Moffitt shall have the right, but no obligation, to file, prosecute and maintain, and to control, enforce, and defend worldwide, at its own expense, any and all patents or patent applications within the Background Intellectual Property of Moffitt. In particular, Moffitt shall have the right, in its sole discretion and without any obligation, to file and prosecute in its own name and at its own expense, patent applications on any inventions therein. Moffitt shall be entitled to retain all amounts recovered from Third Parties in connection with enforcing or defending such patents.

(b) Company shall have the right, but no obligation, to file, prosecute and maintain, and to control, enforce, and defend worldwide, at its own expense, any patent or patent application within the Background Intellectual Property of Company. In particular, Company shall have the right, in its sole discretion and without any obligation, to file and prosecute in its own name and at its own expense, patent applications on any inventions therein. Company shall be entitled to retain all amounts recovered from Third Parties in connection with enforcing or defending such patents.

ARTICLE 8 — CONFIDENTIAL INFORMATION

8.1 **Confidentiality Obligations Arising from Underlying Agreements**. The Parties agree that the confidentiality obligations set forth in the Underlying Agreements will continue to apply to the Parties in accordance with the terms of the relevant Underlying Agreement and to all confidential information defined as "**Confidential Information**" under any such Underlying Agreement in such scope and for such term as agreed in the relevant Underlying Agreement. The Parties agree that such confidentiality obligations shall extend to all Alliance Benefits provided pursuant to this Agreement in connection with such Services, Projects or other activities agreed in such Underlying Agreements.

8.2 **Confidentiality Obligations Arising from this Agreement**. With regard to Confidential Information disclosed by the Parties under this Agreement in course or in relation to their rights and obligations under this Agreement other than the Alliance Benefits *(e.g.*, terms and conditions of this Agreement, disclosures made under Article 6), the following shall apply:

(a) All Confidential Information made available or disclosed, purposefully or not, by one Party to the other Party shall at all times remain the sole property of the disclosing Party.

(b) Each Party shall take all reasonable precautions to maintain the confidentiality of the other Party's Confidential Information and each Party shall use the other Party's Confidential Information only to the extent required to perform its obligations under this Agreement. Unless required by Applicable Laws, each Party shall not disclose the other Party's Confidential Information to anyone other than those directly involved in this Agreement, including their employees, attorneys, consultants, and accountants, who are bound by obligations of confidentiality at least as stringent as those set forth in this Section 8.2.

(c) A Party may disclose Confidential Information of the other Party to the extent it is compelled by Applicable Laws (including, in the case of Company, in connection with any regulatory filings required in the context of its IPO), *bona fide* legal process, or a court of competent jurisdiction to do so, provided the Party gives the other Party prior written notice of such compelled disclosure (to the extent legally permitted) and reasonable assistance, at the other Party's cost, if the other Party wishes to contest the disclosure.

(d) The Parties further shall have the right to disclose the material commercial terms of this Agreement to any potential acquirer, merger, commercial partner or any actual or prospective investor; provided, however, that prior to any such disclosure, such Party (i) shall require the intended recipient to sign an undertaking agreeing to accord confidential treatment to such information at least as restrictive as the terms set forth herein and not use such information except to evaluate the proposed acquisition, merger, commercial arrangement or investment, and (ii) shall take such other steps reasonably necessary to secure confidential treatment of such information.

(e) The Parties shall have the right to disclose information to the extent that such disclosure is reasonably necessary for compliance with Applicable Laws, including securities law and the rules of any securities exchange or market on which a Party's securities are listed or traded.

8.3 **Use of Name**. Neither Party will refer to, display, or use the other's name, nor any variation or adaptation of that name, nor any trademarks or trade names confusingly similar thereto, or any other designation, alone or in conjunction with any other words or names, in any manner or connection whatsoever including any form of advertising or publicity, except with the prior written consent of the other Party.

8.4 **Publication**.

(a) The Parties agree that the publication rights set forth in the Underlying Agreements will continue to apply to the Parties in accordance with the terms of the relevant Underlying Agreement and that such publication rights shall extend to all applicable Alliance Benefits provided pursuant to this Agreement in connection with such Services, Projects or other

activities agreed in such Underlying Agreements. Except for disclosures permitted in accordance with Section 8.2, either Party wishing to make a publication or public presentation that contains the Confidential Information of the other Party or any results of any Services, Project or Research Plan under this Agreement will deliver to the other Party and the Joint Steering Committee a copy of the proposed written publication or presentation in accordance with the terms of the relevant Underlying Agreement and shall be entitled to make publications subject to the terms and conditions of the applicable Underlying Agreement.

(b) Notwithstanding anything in this Agreement (including, without limitation, Section 8.4(a)) or any Underlying Agreement to the contrary, and in addition to its rights under Section 8.2(e), Company shall have the right to disclose Confidential Information of Moffitt and its Affiliates and any results of the Services, Project or Research Plan under this Agreement or any Underlying Agreement in connection with (i) the filing of a registration statement (including the prospectus incorporated therein) under the Securities Act of 1933, as amended, covering any of Company's securities, (ii) the listing of any of Company's securities on any national securities exchange or trading system or (iii) marketing, selling, offering to sell, or soliciting an offer to buy any security of Company, provided that prior to disclosing Confidential Information of Moffitt or any of its Affiliates, Company shall deliver to Moffitt CCRI at least [***] ([***]) [***] prior to such disclosure a copy of the relevant document (or portion thereof) incorporating such disclosure. Within [***] ([***]) [***] of its receipt from Company of the proposed disclosure, Moffitt CCRI shall have the right to (i) propose modifications to the publication or presentation for patent reasons, trade secret reasons, or to remove Confidential Information of Moffitt or its Affiliates, and Company will remove all Confidential Information of Moffitt if reasonably requested by Moffitt CCRI and otherwise use good faith efforts to reflect Moffitt CCRI' s reasonable comments or (ii) request a reasonable delay in publication or presentation in order to protect patentable information. If Moffitt CCRI requests a reasonable delay of disclosure to enable Moffitt or its Affiliates to file patent applications protecting such party's right in such information, then Company will delay such disclosure for a period of [***] ([***]) [***] (or such shorter period as may be mutually agreed by the Parties).

ARTICLE 9 — COMPLIANCE

9.1 **No Promotion or Inducement**. The Parties agree that the Alliance Benefits, licenses and other rights granted by Moffitt to Company under this Agreement, Moffitt Alliance Shares, Sales Milestone Event payments payable by Company pursuant to Section 6.4, additional alliance funding payments payable by Company up to the Total Alliance Funding Amount pursuant to 4.1, and any fees, costs, expenses and other payments payable by Company pursuant to the Underlying Agreements: (a) are the product of *bona fide*, arm's-length negotiations, (b) were not determined in a manner that takes into account — in the aggregate or otherwise — the volume or value of patient referrals or other business generated by and among the Parties, their Affiliates, or their respective employees, or contractors, (c) are commercially reasonable, and (d) to the best of the Parties' knowledge, are consistent with fair market value. The Parties agree that it is not Company's purpose, in whole or in part, to induce Moffitt CCRI or any of its Affiliates or their respective employees or contractors to engage in any conduct that is prohibited by the federal health care program anti-kickback statute, 42 U.S.C. § 1320a-7b(b), or any of its state law counterparts. The Parties further agree that it is not the purpose of Moffitt CCRI or any of its Affiliates, in whole or in part, to induce Company or any of its Affiliates or their respective employees or contractors to engage in any conduct that is prohibited by the federal health care program anti-kickback statute, 42 U.S.C. § 1320a-7b(b), or any of its state law counterparts.

9.2 **Compliance; Privacy**.

(a) Moffitt's performance and Company's receipt of the Services and Alliance Benefits are subject to any requirements and restrictions under: (i) Applicable Laws, including (A) the U.S. federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b) and its implementing regulations, the federal Physician Self-Referral Law (42 U.S.C. § 1395nn) and its implementing regulations, the U.S. federal Foreign Corrupt Practices Act (15 U.S.C. §§ 77d1, 78m), and the U.S. federal False Claims Act (31 U.S.C. § 3729 *et seq.)*, (B) those setting forth privacy, data security, breach notification, or data protection requirements for protected health information, personal information, personally identifiable information, personal data, or similar terms, and (C) protections for human subjects participating in Clinical Trials or other human subjects research, in addition to other cGCP guidelines and standards; (ii) IRB determinations, approvals, instructions, policies, or other requirements; (iii) the terms of any Informed Consent, HIPAA authorization, or other privacy consent, or IRB waiver or alteration of Informed Consent, HIPAA Authorization, or other privacy consent (as applicable), and (iv) applicable Moffitt policies and procedures. Without limiting the generality of the foregoing, if Company receives any individually identifiable health information ("**IIHI**"), as such term is defined in HIPAA, regarding any individual under an Underlying Agreement or this Agreement, the disclosure of which had not been authorized by such individual, Company shall hold the same in confidence in compliance with all Applicable Laws regarding the confidentiality of such records and Company will protect the confidentiality and security of the IIHI as if Company is a "**covered entity,**" as such term is defined in HIPAA.

(b) The Parties agree that (i) the Licensed Data Set includes de-identified patient information and (ii) the California Consumer Privacy Act ("**CCPA**") prohibits Company from re-identifying, or attempting to re-identify, any de-identified data concerning any California Consumer (as such term is defined by CCPA) that is included in the Licensed Data Set. Company will not re-identify or attempt to re-identify any individual who is the subject of the Licensed Data Set or any relative(s), family or household member(s) of any such individual. Unless required by Applicable Laws, Company will not disclose any of the Licensed Data Set to any Company Affiliate or Third Party (other than actual or potential bona fide investors, acquirors, or Collaboration Partners) unless expressly permitted by this Agreement and the applicable Underlying Agreement. Company shall ensure that any permitted recipient of the Licensed Data Set under this Section 9.2(b) is contractually bound by the same or stricter restrictions and conditions as set forth in this Agreement. For purposes of this section, "**re-identify**" means the process of reversal of deidentification techniques, including, but not limited to, the addition of specific pieces of information or data elements that can, individually or in combination, be used to uniquely identify an individual or usage of any statistical method, contrivance, computer software, or other means that have the effect of associating de-identified information with a specific identifiable individual.

9.3 **Access to Moffitt Facilities or Systems**. If necessary for Company to have access to Moffitt's facilities/systems, Company agrees it and any applicable staff, as determined by Moffitt, will abide by Moffitt's "**Oversight of Non-Employed Moffitt Personnel Policy**" for screening and certification prior to being granted access to Moffitt's facilities and/or systems, or Moffitt's data, on a hosted site, or beginning any work hereunder, whether such activities will be conducted on site or remotely.

ARTICLE 10 — REPRESENTATIONS AND WARRANTIES

10.1 **Mutual Representations, Warranties and Covenants**. Each of Moffitt CCRI and Company hereby represent, warrant and covenant to the other Party that:

(a) it is a corporation or entity duly organized and validly existing under the laws of its jurisdiction of incorporation or organization;

(b) the execution, delivery, and performance of this Agreement by it have been duly authorized by all requisite corporate action and do not require any shareholder action or approval;

(c) it has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder;

(d) the execution, delivery, and performance by it of this Agreement and its compliance with the provisions of this Agreement does not and shall not conflict with or result in a breach of any of the terms and provisions of or constitute a default under (i) any other agreement to which it is a party; (ii) the provisions of its charter or organizational documents or bylaws; or (iii) any order, writ, injunction, or decree of any governmental authority entered against it or by which any of its property is bound; and

(e) to the knowledge of such Party, each Underlying Agreement is in full force and effect and there has not been any material breach of any Underlying Agreement or any other circumstance that would constitute a basis for the other Party to terminate any Underlying Agreement.

10.2 **Representations, Warranties and Covenants in Underlying Agreements**. The Parties agree and acknowledge that all representations, warranties and covenants given by one Party to the other Party under the Underlying Agreements stay intact and continue to apply to all Projects and Services agreed in the relevant Underlying Agreements. Solely with regard to Alliance Benefits pursuant to Section 4.6 (Priority Cell Manufacturing), the Parties agree that the representations, warranties and covenants agreed in the Manufacturing Services Agreement shall also extend to this particular scope of Alliance Benefits. With regard to Moffitt's provision of all other Alliance Benefits, only Section 10.4 shall apply.

10.3 **Representations, Warranties and Covenants by Company**. In addition to as otherwise set forth in this Agreement, Company hereby represents, warrants and covenants to Moffitt CCRI that:

(a) as of the Effective Date (and assuming the issuance of the Moffitt Alliance Shares) the Moffitt Alliance Shares represent [***] of the outstanding equity securities of Company (on a fully diluted basis);

(b) [***];

(c) it will perform all of its obligations and activities under this Agreement in a professional manner, with due care, consistent with industry practices and in a diligent, workmanlike, and expeditious manner, and in accordance with all Applicable Laws, including those dealing with occupational safety and health, Regulatory Approvals, public safety, privacy, and protecting the environment;

(d) it and its Representatives involved in this Agreement in any way, is and are not and will not be, during the Alliance Term, disqualified, excluded or debarred by any regulatory agency or other governmental authority for the following: (i) FDA debarment, temporary denial, and suspension pursuant to 21 C.F.R. § 335a, (ii) FDA investigator disqualification or restriction pursuant to 21 U.S.C. §§ 312.70, 511.1(c), or 812.119, (iii) exclusion from participation in federal or state healthcare programs, and (iv) debarment, suspension, or ineligibility to participate in federal procurement and non-procurement programs. Prior to employing or otherwise engaging any Person that will be involved in this Agreement in any way, Company agrees to conduct a search to ensure that such individuals or entities are not disqualified, excluded, or debarred and agrees not to employ or otherwise engage any individual or entity in any capacity related to this Agreement who is presently or has ever been disqualified, excluded or debarred. In the event that the foregoing should occur, or should Company receive notification of any investigation, threat, pending, current, or future proceeding, or notice of the foregoing, Company shall immediately notify Moffitt CCRI.

10.4 **Representations, Warranties and Covenants by Moffitt CCRI**. Moffitt CCRI hereby represents, warrants and covenants to Company that:

(a) it will perform all of its obligations and activities under this Agreement in a professional manner, with due care, consistent with industry practices and in a diligent, workmanlike, and expeditious manner, and in accordance with all Applicable Laws, including those dealing with occupational safety and health, Regulatory Approvals, public safety, privacy, and protecting the environment;

(b) it and its Representatives performing the Alliance Benefits, is and are not and will not be, at the time of performance of any Alliance Benefits hereunder, disqualified, excluded or debarred by any regulatory agency or other governmental authority for the following: (i) FDA debarment, temporary denial, and suspension pursuant to 21 C.F.R. § 335a, (ii) FDA investigator disqualification or restriction pursuant to 21 C.F.R §§ 312.70, 511.1(c), or 812.119, (iii) exclusion from participation in federal or state healthcare programs, and (iv) debarment, suspension, or ineligibility to participate in federal procurement and non-procurement programs. Prior to employing or otherwise engaging any individual or entity to perform the Alliance Benefits, Moffitt CCRI agrees to conduct a search to ensure that such individuals or entities are not disqualified, excluded, or debarred and agrees not to employ or otherwise engage any individual or entity to perform Alliance Benefits who is presently or has ever been disqualified, excluded or debarred. In the event that the foregoing should occur, or should Moffitt CCRI receive notification of any investigation, threat, pending, current, or future proceeding, or notice of the foregoing, Moffitt CCRI shall immediately notify Company; and

(c) with respect to its employees or consultants providing the Alliance Benefits, it shall comply with all rules and obligations vis-à-vis employees and self-employed consultants

(if any), and, as set out by all Applicable Laws, collective and individual agreements, including (i) payment of salaries, social security charges, insurances and withholding taxes on the income received by the workers involved in the performance of this Agreement, as well as (ii) any other obligations deriving from the employment agreement and/or self-employment agreement, including provisions protection of the personnel, safety and physical integrity, in full compliance with all Applicable Laws and the individual and collective agreements. Moffitt CCRI expressly undertakes to perform this Agreement using only personnel duly employed or otherwise engaged in accordance with all Applicable Laws.

10.5 **Disclaimer**. EXCEPT AS EXPRESSLY SET FORTH WITHIN THIS AGREEMENT OR ANY OF THE UNDERLYING AGREEMENTS, AND TO THE EXTENT PERMITTED BY APPLICABLE LAWS, NEITHER PARTY MAKES ANY EXPRESS OR IMPLIED WARRANTIES RELATING TO ANY MATERIALS, PRODUCTS, SERVICES, ALLIANCE BENEFITS OR OTHER ACTIVITIES HEREUNDER, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. THE CLINICAL TRIAL BIOSPECIMENS, SR BIOSPECIMENS, AND LICENSED DATA SET ARE PROVIDED BY MOFFITT TO COMPANY ON AN "**AS IS**" BASIS.

ARTICLE 11 — INDEMNIFICATION; INSURANCE; LIMITATION OF LIABILITY

11.1 **Indemnification**.

(a) Moffitt CCRI agrees, without waiving its sovereign immunity pursuant to Section 768.28, Florida Statutes, to be responsible to the fullest extent permitted by applicable law, for any and all claims, suits, demands, judgements, losses, costs, fines, penalties, damages, liabilities, and expenses (including reasonable attorney's fees and expenses of litigation) ("**Losses**") arising from or relating to any third-party claim alleging negligence or willful misconduct of Moffitt CCRI or any of its Affiliates and its or their respective directors, officers, employees and agents (collectively, the "**Moffitt Parties**") in connection with the performance of Moffitt CCRI's obligations or exercise of Moffitt CCRI's rights under this Agreement; provided, however, that the maximum amount of Moffitt CCRI's liability under this Section 11.1(a) shall be equal to the amounts set forth in Section 768.28, Florida Statutes (the "**Indemnification Cap Amount**").

(b) Company agrees to be responsible to the fullest extent permitted by applicable law for any and all Losses arising from or relating to any third-party claim alleging negligence or willful misconduct of Company or any of its Affiliates and its or their respective directors, officers, employees and agents (collectively, the "**Company Parties**") in connection with the performance of Company's obligations or exercise of Company's rights under this Agreement.

(c) In the event that a Party seeks indemnification pursuant to Section 11.1(a) or Section 11.1(b), as applicable, (the "**Indemnified Party**"), the Indemnified Party shall promptly notify the other Party (the "**Indemnifying Party**") in writing of any claim, lawsuit or other action in respect of which the Indemnified Party intends to claim such indemnification. The Indemnifying Party may not settle any claim without the Indemnified Party or its Affiliates, directors, officers,

employees and agents (the "**Indemnitees**") prior written consent (not to be unreasonably withheld) except no such consent will be required for any settlement that (i) does not admit any liability on behalf of the Indemnified Party or Indemnitees, (ii) includes an unconditional release of liability for the Indemnified Party or Indemnitees, and (iii) does not place obligations on the Indemnified Party or Indemnitees (other than the payment of money which will be fully satisfied by the Indemnifying Party). No such claim, lawsuit or other action shall be settled without the prior written consent of the Indemnifying Party, and the Indemnifying Party shall not be responsible for any legal fees or other costs incurred other than as provided herein. Any Indemnitees of the Indemnified Party shall cooperate fully with the Indemnifying Party and its legal representatives in the investigation and defense of any claim, lawsuit or other action covered by this indemnification, all at the reasonable expense of the Indemnifying Party. The Indemnified Party shall have the right, but not the obligation, to be represented by counsel of its own selection and expense. It is understood that only the Indemnified Party may claim indemnity under this Section 11.1 (on its own behalf or on behalf of its respective Indemnitees).

(d) The rights of Moffitt CCRI under Section 11.1(b) and Company under Section 11.1(a), and of the Parties under Section 14.9, are in addition to, and not in lieu of, any other rights and remedies available to each of the Parties at law or in equity, including the right to seek monetary damages, with respect to any Losses incurred by a Party arising under this Agreement.

11.2 **Insurance**.

(a) The Parties' obligations to obtain and maintain insurances pursuant to the Underlying Agreements stay intact and continue to apply to their respective performance under the Underlying Agreements. The Parties agree that such insurance obligations shall extend to all Alliance Benefits provided pursuant to this Agreement in connection with such Services, Projects or other activities agreed in such Underlying Agreements.

(b) With regard to the Parties' other rights and obligations under this Agreement, the following shall apply: Company will maintain, at all times during the Alliance Term and for [***] ([***]) [***] thereafter, a general liability policy and a product liability insurance policy, each with a per occurrence limit of at least [***] ([***]). Likewise, Moffitt CCRI will maintain, at all times during the Alliance Term and for [***] ([***]) [***], commercial general liability insurance including contractual liability coverage and product liability coverage, with a per occurrence limit of at least [***] ([***]) [***] ([***]). Upon a Party's request, the other Party shall furnish to such Party certificates that all insurance required under this Agreement. Any failure by a Party to provide such certifications shall be deemed a material breach of this Agreement. Nothing contained in this Section shall be construed as a waiver or limitation on Moffitt CCRI's sovereign immunity as set forth under s. 768.28, Florida Statutes. Notwithstanding the foregoing, a Collaboration Partner with worldwide pharmaceutical sales in excess of [***] may satisfy the above obligations through a program of self-insurance.

11.3 **Limitation of Liability**. The Parties' agreements on limitations of liability, if any, pursuant to the Underlying Agreements stay intact and continue to apply to their respective performance under the relevant Underlying Agreements. The Parties agree that such limitations of liability shall extend to all Alliance Benefits provided pursuant to this Agreement in connection with such Services, Projects or other activities agreed in such Underlying Agreements. With regard to the Parties' other rights and obligations under this Agreement, the following shall apply:

(a) SUBJECT TO CLAUSE 11.3(c) BELOW, UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, LOST PROFITS, LOST REVENUE OR PUNITIVE DAMAGES.

(b) SUBJECT TO CLAUSE 11.3(c) BELOW, UNDER NO CIRCUMSTANCES SHALL MOFFITT CCRI'S AGGREGATE LIABILITY UNDER THIS AGREEMENT EXCEED [***].

(c) THE LIMITATIONS SET FORTH IN THIS SECTION 11.3(a) AND11.3(b) SHALL NOT APPLY TO (i) DAMAGES OR LIABILITIES ARISING FROM (A) LIABILITY FOR INDEMNIFICATION, (B) LIABILITY FOR BREACH OF SECTION 4.10 OR Article 7 OR Article 8 HEREUNDER, (C) PERSONAL INJURY OR DEATH OR DAMAGE TO ANY REAL OR TANGIBLE PERSONAL PROPERTY CAUSED BY EITHER PARTY'S NEGLIGENT ACTS OR OMISSIONS OR WILLFUL MISCONDUCT; OR (D) NEGLIGENT ACTS OR OMISSIONS OR WILLFUL MISCONDUCT OF EITHER PARTY IN PERFORMING ITS OBLIGATIONS UNDER THIS AGREEMENT; (ii) A PARTY'S OBLIGATION TO PAY ATTORNEYS' FEES AND COURT COSTS; (iii) COMPANY'S OBLIGATIONS TO [***] (A) [***], (B) [***], OR (C) [***], OR (iv) [***].

ARTICLE 12 — TERM AND TERMINATION

12.1 **Term of Agreement**. The term of this Agreement shall commence on the Effective Date and, unless earlier terminated pursuant to this Article 12, shall continue in full force and effect for a term of five (5) years (the "**Alliance Term**") provided, that the Alliance Term may be extended for additional periods upon the mutual written consent of the Parties.

12.2 **Early Termination by Either Party for Material Breach**. If either Party breaches any of its material obligations under this Agreement, the Party not in breach may give to the breaching Party a written notice specifying the nature of the breach, requiring it to cure such breach, and stating its intention to terminate this Agreement if such breach is not cured within [***] ([***]) [***] (or, in case of breach of payment obligations, within [***] ([***]) [***]). If such breach is not cured to the reasonable satisfaction of the Party giving notice within [***] ([***]) [***] (or, in case of breach of payment obligations, within [***] ([***]) [***]) after the receipt of such notice, the Party giving notice shall be entitled to terminate this Agreement in writing with immediate effect.

12.3 **Early Termination by Either Party for Other Causes**.

(a) **Insolvency**. Either Party may terminate this Agreement upon written notice to the other Party, upon (i) the dissolution, termination of existence, liquidation or business failure of the other Party; (ii) the appointment of a custodian or receiver for the other Party who has not been terminated or dismissed within [***] ([***]) [***] of such appointment; or (iii) the institution by the other Party of any proceeding under national, federal or state bankruptcy, reorganization, receivership or other similar Applicable Laws affecting the rights of creditors generally or the

making by such Party of a composition or any assignment for the benefit of creditors under any national, federal or state bankruptcy, reorganization, receivership or other similar law affecting the rights of creditors generally, which proceeding is not dismissed within [***] ([***]) [***] of filing.

(b) **Termination Due to Pandemic**. Either Party may terminate this Agreement by written notice to the other Party if a pandemic event results in government lockdowns or orders that legally compel such Party to cease operations or that result in material disruptions in the available workforce and prevents such Party from performing its contractual obligations for a period of more than [***] ([***]) [***].

(c) **Mutual Agreement**. The Parties may terminate this Agreement at any time during the Alliance Term upon mutual agreement in writing.

(d) **For Convenience by Either Party**. Subject to such Party's obligations under Section 12.6, and upon satisfaction of the obligations of such Party under Section 12.3(d)(i), at any time from and after the date that is three (3) years after the Effective Date, either Turnstone or Moffitt CCRI may terminate this Agreement without cause upon not less than sixty (60) days prior written notice to the other Party. For clarity, the earliest termination effective date pursuant to Section 12.3(d) shall be August 1, 2025.

(i) On or before the date that is [***] ([***]) [***] prior to the effective date of termination set forth in the notice delivered by a Party to the other Party pursuant to Section 12.3(d), the terminating Party shall pay to the other Party a termination fee (the "**Termination Fee**") in an amount equal to [***] ([***]) of the then remaining Total Alliance Funding Amount as such amount (and the related Target Funding Amounts for each then remaining years of the Term) has been adjusted from time to time prior to such termination date in accordance with Section 5.3. The non-terminating Party shall issue to the terminating Party promptly upon receipt of the notice contemplated by Section 12.3(d) an invoice for the amount of the Termination Fee.

12.4 **Tax Exemptions; Accreditation**. Moffitt CCRI, in its sole discretion, may terminate this Agreement upon [***] ([***]) [***] prior written notice to Company if Moffitt CCRI reasonably determines that this Agreement or the relationship of the Parties created by this Agreement could result in or present a material risk of (a) revocation of the federal tax-exempt status of Moffitt CCRI or any tax-exempt Affiliate of Moffitt CCRI, or its or their respective tax-exempt financial obligations; (b) jeopardizing the tax exempt status of Moffitt CCRI's bonds or prohibit or restrict the ability of Moffitt CCRI or any tax-exempt Affiliate of Moffitt CCRI to issue tax-exempt bonds, certificates of participation or other tax-exempt financial obligations, or (c) loss of Moffitt's or any of its Affiliates' National Cancer Institute designation (each of (a), (b), and (c), a "**Risk Event**"). During such [***] ([***]) [***] notice period, the Parties shall cooperate in good faith to reform this Agreement, in a manner that is mutually acceptable to the Parties, to alleviate the applicable Risk Event. If the Parties are unable to so reform this Agreement during the [***] ([***]) [***] period, this Agreement shall terminate, and to the extent that such actions do not result in or present a material risk of a Risk Event, Moffitt shall provide reasonable transition services to Company at fair market value for the services provided.

12.5 **Non-Operational Facility; Condemnation**.

(a) **Non-Operational Facility**. Moffitt CCRI may terminate this Agreement, solely with respect to activities or an Underlying Agreement that relates to a particular Facility, upon [***] ([***]) [***] prior written notice to Company, if such Facility is (or will become), non-operational as a direct or indirect result of (i) any order by a competent Governmental Body or (ii) any other disruptive event outside of the reasonable control of Moffitt CCRI, including any Force Majeure event.

(b) **Condemnation**. If the Facility(ies) are, or any individual Facility is, condemned or taken as a result of the exercise of the power of eminent domain or will be conveyed to a Governmental Body having power of eminent domain under the threat of the exercise of such power (any of the foregoing, a "**Condemnation**"), then this Agreement will terminate as of the date on which title to the Facility(ies) vests in the authority so exercising or threatening to exercise such power and Company will not have any right to the Condemnation proceeds.

12.6 **General Effects of Termination or Expiration of this Agreement**.

(a) **Accrued Rights and Obligations**. Termination or expiry of this Agreement shall not release either Party from its obligations accrued prior to the effective date of termination or expiry nor deprive either Party from any rights that this Agreement has conferred on such Party. Such obligations and rights shall survive termination or expiry of this Agreement. Termination of this Agreement by either Party shall be in addition to and not in lieu of any other remedies available to such Party, at law and in equity. With regard to the last Target Funding Amount (which is payable on the last day of the Alliance Term pursuant to Section 5.1(b)), Section 5.2(b) shall survive the expiry (but not a termination) of this Agreement, so that (i) Moffitt CCRI shall be entitled to invoice the then applicable Annual Funding True-Up Amount to Company and (ii) Company shall be obliged to pay such invoiced amount to Moffitt CCRI as set forth in Section 5.2(b).

(b) **Surviving Terms**. The provisions of this Agreement that by their nature should survive the termination or expiry of this Agreement shall survive any expiry or termination. The following provisions shall expressly survive any expiry or termination of this Agreement: Article 1 (Definitions), Article 8 (Confidentiality Obligations), Article 11 (Indemnification, Insurance, Limitation of Liability); Article 14 (Miscellaneous) and Section 12.6 (General Effects of Termination or Expiration of this Agreement), including all provisions referenced therein, 13.5 (Governing Law, Jurisdiction), 13.4 (Equitable Relief).

(c) **Continued Underlying Agreements; Wind-Down of Alliance Benefits**. Termination or expiry of this Agreement shall not affect the terms of any Underlying Agreements, which shall continue in accordance with their respective provisions. However, the Alliance Benefits set forth in this Agreement shall terminate upon termination or expiry of this Agreement and shall no longer apply to the Services or other rights and obligations of the Parties' agreed in any given Underlying Agreement. Moffitt shall take all steps necessary to wind down and cease the affected Alliance Benefits in an orderly manner and in accordance with Applicable Laws. Company shall cooperate with Moffitt in the wind-down and shall pay all non-cancellable costs and out-of-pocket expenses incurred by Moffitt in connection with or and as a result of such wind-down.

(d) **Rights in Clinical Trial Biospecimens, SR Biospecimens, and Licensed Data Set**. Subject to Section 12.7, termination or expiry of this Agreement shall not affect Company's rights to exploit the Licensed Data Set, Clinical Trial Biospecimens, and SR Biospecimens in accordance with Sections 4.4, 4.5, and 4.6, respectively, and Sections 4.4, 4.5, and 4.6 shall survive the expiry or termination of this Agreement.

(e) **Continued Financial Terms and Related Obligations**.

(i) Except in the case of a termination by Company pursuant to Section 12.2 or a termination by Moffitt CCRI pursuant to Section 12.3(d) or Section 12.5, termination or expiry of this Agreement shall not affect (A) the potential issuance of any unissued Moffitt Alliance Shares pursuant to Section 6.2 or (B) Company's obligation to pay the Sales Milestone Event payments pursuant to Section 6.4. Company's obligation to notify Moffitt CCRI about the occurrence of Equity Milestones pursuant to Section 6.6(a) and of Sales Milestone Events pursuant to Section 6.6(b), as well as Moffitt CCRI' s right to dispose of equity pursuant to Section 6.3, shall survive the termination or expiry of this Agreement. For the avoidance of doubt, Company's diligence obligations under Section 6.5 and its reporting obligations under Section 6.6(c) shall terminate upon termination or expiry of this Agreement.

(ii) To the extent not yet accrued prior to the effective date of termination or expiry and subject to Section 12.7, Company's obligation to pay additional alliance funding payments up to the Total Alliance Funding Amount pursuant to 4.1 shall terminate upon termination or expiry of this Agreement. Except in the case of a termination by Company pursuant to Section 12.2 or a termination by Moffitt CCRI pursuant to Section 12.3(d) or Section 12.5, (A) in no event shall Moffitt be obliged to refund or credit to Company any amounts paid by Company to Moffitt CCRI as additional alliance funding payments and (B) upon termination or expiry of this Agreement, Section 5.2(c) shall terminate and Moffitt shall be entitled to invoice any fees under the Underlying Agreements without reconciliation.

(f) **Return of Confidential Information**. Unless otherwise required (i) for the Parties' continued performance of any Underlying Agreement, and subject to the confidentiality obligations agreed in any such Underlying Agreement, or for (ii) the Parties' performance of their rights and obligations under surviving terms of this Agreement, the receiving Party agrees to return or destroy promptly (and certify such destruction) at the disclosing Party's request all Confidential Information of the disclosing Party. If not earlier requested, upon termination of this Agreement, the receiving Party shall promptly return to the disclosing Party such Confidential Information, and shall destroy all copies thereof, together with all notes, drawings, abstracts and other information relating to the disclosing Party's Confidential Information regardless of the medium in which such information is stored; provided, however, that the receiving Party may maintain one (1) archival copy of the disclosing party's Confidential Information, which such archival copy shall remain subject to the obligations of confidentiality and non-use set forth herein; and provided further that copies of Confidential Information which are retained as a result of a Party's regular electronic backup systems shall not be required to be destroyed provided that they are not regularly accessed and remain subject to the terms and conditions of this Agreement. The return or destruction of the Confidential Information as provided above shall not relieve the receiving Party of its other obligations under Article 8.

12.7 **Consequences of Termination by Moffitt CCRI pursuant to Section 12.2**. In case of an early termination (not expiry) of this Agreement by Moffitt CCRI pursuant to Section 12.2 due to a material, uncured breach by Company, the following shall apply in addition to or, as applicable, deviation from the general effects of termination set forth in Section 12.6, Company's rights to exploit the Licensed Data Set, Clinical Trial Biospecimens, and SR Biospecimens in accordance with Sections 4.4, 4.5, and 4.6, respectively, shall terminate and Company shall return or, at the discretion of Moffitt, destroy the Clinical Trial Biospecimen and the Licensed Data Set promptly upon the effective date of the termination. Any destruction of the Licensed Data Set shall be through a method that ensures that all paper, film, or other hard copy media on which any of the Licensed Data Set is stored or recorded has been shredded or destroyed such that none of the Licensed Data Set can be read or otherwise reconstructed, and by clearing, purging, or destroying all electronic media on which any of the Licensed Data Set is stored or recorded in accordance with the NIST Special Publication 80088 Revision 1, Guidelines for Media Sanitation December 18, 2014 (available at http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-88r1.pdf).

12.8 **Termination or Expiry of Underlying Agreements**. Termination or expiry of one or more or all Underlying Agreements (or of individual Projects or Statements of Work) in accordance with their respective terms shall not affect this Agreement, which shall continue to apply to the remaining ongoing Underlying Agreements. For clarity, in any such case (including when there is no remaining ongoing Underlying Agreement), the obligations of Company pursuant to Section 4.1 and Article 6 shall continue to apply.

ARTICLE 13 — DISPUTE RESOLUTION

13.1 **Internal Resolution**.

(a) In the event of any controversy, claim or dispute between the Parties directly or indirectly arising from or relating to this Agreement or any Underlying Agreement, including, but not limited to, with respect to any alleged material breach (each, a "**Dispute**"), the Parties shall first attempt to resolve such Dispute through the Joint Steering Committee pursuant to Sections 3.4(j), 3.5 and 3.8.

(b) If a Dispute cannot be resolved through the Joint Steering Committee in accordance with Section 3.8(a) or 3.8(b) (for example in case of Section 3.8(c) or 3.8(d)), either Party may seek resolution of the Dispute by providing notice to the other Party of intent to refer the Dispute to senior executives of the Parties for resolution (such notice a "**Notice of Senior Executive Resolution**"). Upon the other Party's receipt of a Notice of Senior Executive Resolution, each Party shall appoint and authorize a senior executive to seek to resolve the Dispute on behalf of his or her respective entity ("**Senior Executives**"). The Senior Executives will meet for negotiations within [***] ([***]) [***] after receipt of the Notice of Senior Executive Resolution at a time and place mutually acceptable to both Senior Executives.

(c) All offers, promises, conduct and statements, whether written or oral, made in the course of conducting the Dispute resolution negotiations pursuant to this Section 13.1 by any of the Parties, their employees, experts and attorneys, are confidential, privileged and inadmissible for any purpose, including impeachment, in any proceeding involving the Parties, provided that evidence that is otherwise admissible or discoverable will not be rendered inadmissible or non-discoverable as a result of its use in the negotiation.

13.2 **Non-Binding Mediation**. If a Dispute has not been resolved within [***] ([***]) [***] after receipt of a Notice of Senior Executive Resolution, then either Party may proceed to seek resolution of the Dispute by initiating mediation upon delivery of written notice to the other party (such delivery date, the "**Mediation Notice Date**"), whereupon both Parties shall engage in a non-binding mediation proceeding under the then-current Center for Public Resources ("**CPR**") Model Procedure for Mediation of Business Disputes (http://www.cpradr.org), except that specific provisions of this Section 13.2 shall override inconsistent provisions of the CPR Model Procedure. The mediator will be selected from the CPR Panels of Neutrals. If the Parties cannot agree upon the selection of a mediator within [***] ([***]) [***] after the Notice Date, then upon the request of either Party, the CPR shall appoint the mediator. The Parties shall attempt to resolve the Dispute through nonbinding mediation until the first of the following occurs: (i) the Parties reach a written settlement; (ii) the mediator notifies the Parties in writing that they have reached an impasse; (iii) the Parties agree in writing that they have reached an impasse; or (iv) the Parties have not reached a settlement within [***] ([***]) [***] after the Notice Date. In the event of (ii), (iii), or (iv), either Party shall be entitled to seek relief in court in accordance with Sections 13.3, 13.4, and 13.5.

13.3 **Injunctive Relief**. Notwithstanding any provision of Section 13.1 or 13.2, either Party will have the right to seek injunctive relief without completion of the process for Disputes set forth in Sections 13.1 and 13.2 regarding any alleged breach of confidentiality or violation of Intellectual Property or privacy rights as set forth in Section 13.4.

13.4 **Equitable Relief**. The Parties agree that their obligations of confidentiality and in relation to Intellectual Property are necessary and reasonable in order to protect the Parties' respective businesses. The Parties further agree that monetary damages may be inadequate to compensate a Party for any breach by the other Party of its covenants and agreements with respect to confidentiality and Intellectual Property, and that each Party shall be entitled to seek injunctive or other equitable relief against the threatened or continued breach of those provisions, and agree that no bond or other security shall be required in obtaining such equitable relief. Furthermore, except as expressly set forth in this Agreement, none of the remedies set forth in this Agreement is intended to be exclusive, and each Party shall have available to it all remedies available under law or in equity.

13.5 **Governing Law; Jurisdiction**. This Agreement shall be construed and interpreted in accordance with, and shall be governed by, the laws of the [***] and applicable federal law. Any suit, action or proceeding with respect to or arising out of this Agreement shall have as its venue, [***]. In any action or dispute, at law or in equity, that may arise under or out of or otherwise relate to this Agreement or the transactions contemplated hereby, the prevailing Party shall recover its legal expenses, including reasonable attorneys' fees, legal assistants' fees, costs and expenses, from the non-prevailing Party at all court levels (including bankruptcy proceedings and appeals), in addition to any other relief to which that Party shall be entitled.

ARTICLE 14 — MISCELLANEOUS

14.1 **Relationship of the Parties**. Nothing in this Agreement is intended or shall be deemed to constitute a partnership, agency, joint venture or employer-employee relationship between the Parties. Neither Party shall at any time enter into, incur, or hold itself out to Third Parties as having authority to enter into or incur, on behalf of the other Party, any commitment, expense, or liability whatsoever.

14.2 **No Joint or Several Liability**. Nothing in this Agreement shall be construed to create any joint or several liability between or among Moffitt CCRI or any of its Affiliates. In respect to this Agreement and each of the Underlying Agreements, it is expressly acknowledged and understood that Moffitt CCRI and each of its Affiliates is separately responsible for its own acts and omissions thereunder and for any and all damages, claims, liabilities or judgments which may arise as a result of Moffitt CCRI's or any of its Affiliates' own negligence or intentional wrongdoing. Nothing in this Agreement shall be construed to place any responsibility for acts or omissions of Moffitt CCRI or any of its Affiliates onto any other Affiliate of Moffitt CCRI or onto Moffitt CCRI. Moffitt CCRI shall not have or be deemed to have any liability, direct or vicarious, for any act or omission by any Affiliate of Moffitt CCRI or any of their respective officers, directors, employees or agents in respect to any of the Underlying Agreements unless a direct signatory thereto and then only to the extent its interest appear.

14.3 **Notices and Deliveries**. All notices, requests, demands and other communications called for or contemplated by this Agreement shall be in writing and shall be deemed to have been given (a) when delivered personally, (b) [***] on which the same has been delivered prepaid to a national air courier service, or (c) [***] ([***]) [***] following deposit in the U.S. mail sent registered or certified mail with postage prepaid thereon, to the persons set forth below, or to other such person or address designated in writing by such Party to the other:

If to Moffitt CCRI, addressed to:

H. Lee Moffitt Cancer Center and Research Institute, Inc.
Attn: Vice President, Research Administration
12902 Magnolia Drive, CSB-8 ADMIN
Tampa, Florida 33612-9416

With a copy to:

H. Lee Moffitt Cancer Center and Research Institute, Inc.
Attn: Executive Vice President/General Counsel
12902 Magnolia Drive, SRB-OGC
Tampa, Florida 33612-9416

If to Company, addressed to:

Turnstone Biologics Corp.
Attn: Chief Executive Officer
Center for Novel Therapeutics
9310 Athena Circle
La Jolla, California 92037

With a copy to:

Turnstone Biologics Corp.
Attn: General Counsel
920 Broadway, 16th floor
New York, New York 10010
E-Mail: [***] E-Mail: contracts@turnstonebio.com

14.4 **Assignment**. This Agreement shall be binding upon the successors and assigns of the Parties and the name of a Party appearing herein shall be deemed to include the names of its successors and assigns. Neither Party will have the right to assign this Agreement without the prior written consent of the other Party, which consent will not be unreasonably withheld or delayed; provided, however, that (a) Company may, without consent but rather upon prior written notification to Moffitt CCRI, assign this Agreement to an Affiliate of Company or to any successor to all or substantially all of its business that concerns this Agreement (whether by sale of assets or equity, merger, consolidation or otherwise), and (b) Moffitt CCRI may, without consent but rather upon prior written notification to Company, assign this Agreement to any Moffitt CCRI Affiliate that is a non-profit entity, provided that, in the case of each clause (a) and (b) of this sentence, (i) such assignee agrees in writing to be bound by the terms and conditions of this Agreement and to assume all the liabilities and obligations of assignor in connection therewith and (ii) no assignment shall relieve any assigning Party of its liabilities and obligations under this Agreement arising or relating before, on or after the date of such assignment including, in the case of Company, its obligations under Article 5 and Article 6 of this Agreement. Any assignment in violation of this Section shall be null and void. Nothing in this Section shall limit or preclude a Party's assignment rights under any given Underlying Agreement, provided however, that any permitted assignment of an Underlying Agreement by Company to an Affiliate or a Third Party shall cause such Underlying Agreement to be excluded from the scope of this Alliance and with the effective date of such assignment, the assigned agreement shall no longer constitute an "**Underlying Agreement**" pursuant to this Agreement. Notwithstanding any other provision of this Agreement, neither this Agreement nor any rights hereunder may be assigned in part rather than in whole by Company.

14.5 **Further Actions**. Each Party agrees to execute, acknowledge and deliver such further instruments and to do all such other acts as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

14.6 **No Presumption against Drafter**. For purposes of this Agreement, each Party hereby waives any rule of construction that requires that ambiguities in this Agreement (including any Exhibit hereto) be construed against the drafter.

14.7 **Force Majeure**. Neither Party shall be liable to the other for failure or delay in the performance of any of its obligations under this Agreement for the time and to the extent such failure or delay is caused by acts of God, earthquake, riot, civil commotion, terrorism, war, strikes or other labour disputes, fire, flood, epidemics or pandemics which result in government lockdowns or orders that legally compel a Party to cease operations or which result in material disruptions in the available workforce, failure or delay of transportation, default by suppliers or unavailability of raw materials, governmental acts or restrictions or any other reason which is

beyond the reasonable control of the respective Party ("**Force Majeure**"). The Party affected by Force Majeure shall provide the other Party with full particulars thereof as soon as it becomes aware of the same (including its best estimate of the likely extent and duration of the interference with its activities), and will use Commercially Reasonable Efforts to overcome the difficulties created thereby and to resume performance of its obligations hereunder as soon as practicable. The Parties agree and acknowledge that any event related to the COVID-19 pandemic that was existent and publicly known as of the Effective Date shall not be considered as a Force Majeure event in this Agreement, provided however that any new events related to the COVID-19 pandemic, including but not limited to the occurrence of a variant, may be considered as a Force Majeure event, if such new events result in government lockdowns or orders that legally compel a Party to cease operations or which result in material disruptions in the available workforce.

14.8 **No Implied License; No Trademark Rights**. No right or license is granted to Company hereunder by implication, estoppel, or otherwise to any Intellectual Property Controlled by Moffitt CCRI or its Affiliates. No right, express or implied, is granted by this Agreement to a Party to use in any manner the name or any other trade name or trademark of the other Party in connection with the performance of this Agreement or otherwise.

14.9 **Specific Performance**. The Parties hereto agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being in addition to any other remedy to which they are entitled at law or in equity. The right to venue in any court of the United States or any state having jurisdiction is solely applicable to equitable relief. Any claims based in law or a combination of law and equity shall be governed in accordance with the venue provisions in Section 13.5 (Governing Law; Jurisdiction).

14.10 **Headings; Construction; Interpretation**. Headings used herein are for convenience only and shall not in any way affect the construction of or be taken into consideration in interpreting this Agreement. The terms of this Agreement represent the results of negotiations between the Parties and their representatives, each of which has been represented by counsel of its own choosing, and neither of which has acted under duress or compulsion, whether legal, economic or otherwise. Accordingly, the terms of this Agreement shall be interpreted and construed in accordance with the definitions for such terms provided herein or, if no such definitions are provided, with their usual and customary meanings, and each of the Parties hereto hereby waives the application in connection with the interpretation and construction of this Agreement of any rule of Applicable Laws to the effect that ambiguous or conflicting terms or provisions contained in this Agreement shall be interpreted or construed against the Party whose attorney prepared the executed draft or any earlier draft of this Agreement. Any reference in this Agreement to an Article, Section, subsection, paragraph, clause, Schedule or Exhibit shall be deemed to be a reference to any Article, Section, subsection, paragraph, clause, Schedule or Exhibit, of or to, as the case may be, this Agreement. All Schedules and Exhibits to this Agreement shall form an integral part of this Agreement. Except where the context otherwise requires, (a) any definition of or reference to any agreement, instrument or other document refers to such agreement, instrument other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or

therein), (b) any reference to any Applicable Laws refers to such Applicable Laws as from time to time enacted, repealed or amended, (c) the words "**herein**", "**hereof**" and "**hereunder**", and words of similar import, refer to this Agreement in its entirety and not to any particular provision hereof, (d) the words "**include**", "**includes**" and "**including**" shall be deemed to be followed by the phrase "**but not limited to**", "**without limitation**" or words of similar import, (e) the word "**or**" is used in the inclusive sense (and/or), unless otherwise indicated by the term "**either/or**" and (f) the singular shall include the plural, the plural the singular, the use of any gender shall be applicable to all genders.

14.11 **Waiver**. A waiver by either Party of any of the terms and conditions of this Agreement in any instance shall not be deemed or construed to be a waiver of such term or condition for the future, or of any other term or condition hereof. All rights, remedies, undertakings, obligations and agreements contained in this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

14.12 **Entire Agreement**. This Agreement and each of the Underlying Agreements constitutes and contains the entire understanding and agreement of the Parties with respect to the subject matter hereof and supersedes and cancels all previous registrations, understandings, agreements and commitments, whether oral or written, and all previous writings in respect such subject matter. All Exhibits to this Agreement constitute an integral part of this Agreement, it being understood that the Underlying Agreements listed in Exhibit 2.1 remain separate, independent agreements. In the case of a conflict between any Exhibits and the provisions of this Agreement, the provisions of this Agreement shall prevail. In the event of any conflict or inconsistency between this Agreement and an Underlying Agreement, Section 2.2(d) shall apply. All "**RECITALS**", "**DEFINITIONS**" form an integral part of this Agreement.

14.13 **Amendments**. No waiver, modification or amendment of any provision of this Agreement shall be valid or effective unless made in a writing referencing this Agreement and signed by a duly authorized officer of each Party.

14.14 **Severability**. If any provision of this Agreement is held to be illegal, invalid or unenforceable under Applicable Laws or becomes unenforceable because of judicial construction, the remaining provisions of this Agreement will not be affected by such illegality, invalidity or unenforceability. The Parties shall make a good faith effort to replace the invalid or unenforceable provision with a valid one which in its economic effect is most consistent with the invalid or unenforceable provision.

14.15 **Counterparts**. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, and all of which shall constitute one and the same instrument. The Parties agree that an original signature, either handwritten or digital, or a copy thereof, transmitted by fax or by PDF via email shall constitute an original signature under this Agreement. The Parties (a) agree that each may use electronic signatures to execute this Agreement; and (b) by doing so agree to being subject to the provisions of the United States E-SIGN Act (*i.e.*, the Electronic Signatures in Global and National Commerce Act (enacted June 30, 2000 and codified at 15 U.S.C. § 7001 *et seq.*)).

[Remainder of page intentionally left blank; signature page follows.]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed and delivered in duplicate by their duly authorized representatives with legal and binding effect as of the Effective Date.

TURNSTONE BIOLOGICS CORP.	H. LEE MOFFITT CANCER CENTER AND RESEARCH INSTITUTE, INC.
By: */s/ Sammy Farah*	By: */s/ John Cleveland*
Name: Dr. Sammy Farah	Name: John L. Cleveland, PhD
Title: President and Chief Executive Officer	Title: Center Director and Executive Vice President
Date: June 1, 2022	Date: June 1, 2022

Exhibit 2.1

Active Projects

[***]

Exhibit 10.9

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

LEASE

by and between

BMR-ATHENA LP,

a Delaware limited partnership

and

TURNSTONE BIOLOGICS CORP.,

a Delaware corporation

BioMed Realty form dated 8/10/20

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

LEASE

THIS LEASE (this "Lease") is entered into as of this 23rd day of [June], 2021 (the "Execution Date"), by and between BMR-ATHENA LP, a Delaware limited partnership ("Landlord"), and TURNSTONE BIOLOGICS CORP., a Delaware corporation ("Tenant").

RECITALS

A. WHEREAS, pursuant to that certain ground lease dated as of March 15, 2017, by and between The Regents of the University of California ("Ground Lessor"), as landlord, and Landlord, as tenant (such ground lease, as the same may be amended, amended and restated, supplemented or otherwise modified from time to time, the "Ground Lease"), Landlord leases certain real property (the "Property") and operates the improvements located thereon, including the building located at 9310 Athena Circle, La Jolla, California (the "Building");

B. WHEREAS, the Property is located on the Ground Lessor's University of California San Diego Campus (the "Campus");

C. WHEREAS, Landlord wishes to lease to Tenant, and Tenant desires to lease from Landlord, certain premises (the "Premises") located on the third (3rd) floor of the Building, pursuant to the terms and conditions of this Lease, as detailed below.

AGREEMENT

NOW, THEREFORE, Landlord and Tenant, in consideration of the mutual promises contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, agree as follows:

1. Lease of Premises. Effective on the Term Commencement Date (as defined below), Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises, as shown on Exhibit A attached hereto, for use by Tenant in accordance with the Permitted Use (as defined below) and no other uses. For so long as the parking facility serving the Premises is located as shown on Exhibit A-1, such area shall be deemed part of the Property for purposes of this Lease, notwithstanding anything to the contrary contained herein or in the Ground Lease. The Property and all landscaping, parking facilities, private drives and other improvements and appurtenances related thereto, including the Building, are hereinafter collectively referred to as the "Project." All portions of the Project that are for the non-exclusive use of tenants of the Building, including driveways, sidewalks, parking areas, landscaped areas, service corridors, stairways, elevators, public restrooms and public lobbies, are hereinafter referred to as "Common Area."

2. Basic Lease Provisions. For convenience of the parties, certain basic provisions of this Lease are set forth herein. The provisions set forth herein are subject to the remaining terms and conditions of this Lease and are to be interpreted in light of such remaining terms and conditions.

2.1 This Lease shall take effect upon the Execution Date and, except as specifically otherwise provided within this Lease, each of the provisions hereof shall be binding upon and inure to the benefit of Landlord and Tenant from the date of execution and delivery hereof by all parties hereto.

2.2 In the definitions below, Rentable Area (as defined below) is expressed in square feet. Rentable Area and "Tenant's Pro Rata Share" are both subject to adjustment as provided in this Lease.

Definition or Provision	Means the Following (As of the Term Commencement Date)
Approximate Rentable Area of Premises	19,474 square feet
Approximate Rentable Area of Building	137,568 square feet
Tenant's Pro Rata Share of Building	14.16%

2.3 Initial monthly and annual installments of Base Rent for the Premises ("Base Rent") as of the Term Commencement Date (as defined below) will be as follows, subject to adjustment under this Lease:

Dates	Square Feet of Rentable Area	Base Rent per Square Foot of Rentable Area	Monthly Base Rent*	Annual Base Rent*
Month 1 – Month 12	19,474	$5.45 monthly	$106,133.30	$1,273,599.60

** Note:* *Base Rent is subject to (i) annual increase as set forth in Section 8.1, (ii) increase in the event Tenant utilizes any portion of the TI Allowance (as defined below), and (iii) the Free Rent Period (as defined in Section 8.2).*

For illustrative purposes only, if (a) Tenant utilizes all of the TI Allowance (as defined below) in accordance with Section 4.5, and (b) the full Free Rent Period is applied pursuant to Section 8.2, then monthly and annual installments of Base Rent during the Term, subject to further adjustment under this Lease, will be as follows:

Month	Monthly Base Rent without TI Allowance*	Base Rent Due to TI Allowance	Total Monthly Base Rent	Total Annual Base Rent
1	$106,133.30	$ 0	$106,133.30	N/A
2-3	$106,133.30**	$ 0	$106,133.30**	N/A
4-12	$106,133.30	$ 9,385.20	$115,518.50	N/A
13-24	$109,847.97	$ 9,713.68	$119,561.64	$1,434,739.72
25-36	$113,692.64	$ 10,053.66	$123,746.30	$1,484,955.61
37-38	$117,671.89	$ 10,405.53	$128,077.42	N/A

** Note:* *The illustrative Base Rent chart above reflects the annual increase to Base Rent as set forth in Section 8.1.*

*** Note:* *Amount is subject the Free Rent Period (as defined in Section 8.2).*

2.4 Estimated Term Commencement Date: January 12, 2022

2.5 Estimated Term Expiration Date: March 11, 2025

2.6 Security Deposit: $115,870.30

2.7 Permitted Use: Office and laboratory use, in each case that supports scientific research purposes, all in conformity with all federal, state, municipal and local laws, codes, ordinances, rules and regulations of Governmental Authorities (as defined below), the Ground Lease, committees, associations, or other regulatory committees, agencies or governing bodies having jurisdiction over the Premises, the Building, the Property, the Project, Landlord or Tenant, including both statutory and common law and hazardous waste rules and regulations and all rules, orders and regulations of Ground Lessor with respect to the Campus (collectively, "Applicable Laws"); provided that the Permitted Use shall not include any research which is designated by the United States Government as classified.

2.8 Address for Rent Payment:

BMR-Athena LP
Attention Entity 340
P.O. Box 511415
Los Angeles, California 90051-7970

2.9 Address for Notices to Landlord:

BMR-Athena LP 4570 Executive Drive, Suite 400
San Diego, California 92121
[***]

2.10 Address for Notices to Tenant:

Turnstone Biologics Corp. 9310 Athena Circle, Suite 300
La Jolla, California 92037

2.11 Address for Invoices to Tenant:

Turnstone Biologics Corp. 9310 Athena Circle, Suite 300
La Jolla, California 92037

2.12 The following Exhibits are attached hereto and incorporated herein by reference:

Exhibit A	Premises
Exhibit A-1	Parking
Exhibit B	Work Letter
Exhibit B-1	Tenant Work Insurance Schedule
Exhibit C	Acknowledgement of Term Commencement Date and Term Expiration Date
Exhibit D	Form of TI Allowance Acceptance Letter
Exhibit E	Form of Letter of Credit
Exhibit F	Rules and Regulations
Exhibit G	Property Operations Documents
Exhibit H	Tenant's Personal Property
Exhibit I	Form of Estoppel Certificate

3. Term. The term of the leasehold granted by this Lease (as the same may be extended pursuant to Article 42 hereof and as the same may be earlier terminated in accordance with this Lease, the "Term") shall commence on the actual Term Commencement Date (as defined in Article 4) and end on the date (the "Term Expiration Date") that is thirty-eight (38) months after the actual Term Commencement Date, subject to extension or earlier termination of this Lease as provided herein. TENANT HEREBY WAIVES THE REQUIREMENTS OF SECTION 1933 OF THE CALIFORNIA CIVIL CODE, AS THE SAME MAY BE AMENDED FROM TIME TO TIME.

4. Possession and Commencement Date.

4.1 Landlord shall use commercially reasonable efforts to tender possession of the Premises to Tenant on the Estimated Term Commencement Date, with the work (the "Tenant Improvements") required of Landlord described in the Work Letter attached hereto as Exhibit B (the "Work Letter") Substantially Complete (as defined below). Tenant agrees that in the event such work is not Substantially Complete on or before the Estimated Term Commencement Date for any reason, then (a) this Lease shall not be void or voidable, and (b) Landlord shall not be liable to Tenant for any loss or damage resulting therefrom; provided, however, Tenant shall have no obligation to pay Base Rent, Tenant's Adjusted Share of Operating Expenses, Monthly Parking Fee and the Property Management Fee (as such terms are defined below), until the actual Term Commencement Date. The term "Substantially Complete" or "Substantial Completion" means that (i) the Tenant Improvements are substantially complete in accordance with the Approved Plans (as defined in the Work Letter), except for minor punch list items that do not materially interfere with Tenant's access to or use of the Premises, which will be conclusively established by delivery of a Certificate of Substantial Completion in the form of the American Institute of Architects document G704, executed by the project architect and the general contractor and (ii) the Premises may be legally occupied pursuant to a temporary certificate of occupancy or its substantial equivalent (such as sign-off on the building permit by the Governmental Authority that issued such permit), to the extent required by Applicable Laws for occupancy of the Premises. Concurrently with Landlord's delivery of the Premises to Tenant, a representative of Landlord and a representative of Tenant shall perform a walk-through inspection of the Tenant Improvements in the Premises to identify any "punchlist" items (i.e., minor defects or conditions in such Tenant Improvements that do not impair Tenant's ability to utilize the Premises for the purposes permitted hereunder), which items Landlord shall repair or correct no later than thirty (30) days after the date of such walk-through (unless the nature of such repair or correction is such that more than thirty (30) days are required for completion, in which case Landlord shall commence such repair or correction work within such thirty (30) day period and diligently prosecute the same to completion). Notwithstanding anything in this Lease (including the Work Letter) to the contrary, Landlord's obligation to timely achieve Substantial Completion shall be subject to extension on a day-for-day basis as a result of Force Majeure (as defined below).

Notwithstanding anything to the contrary in this Lease, if Substantial Completion has not occurred by the date that is sixty (60) days after the Estimated Commencement Date (the "Outside Date"), then Tenant shall be entitled to receive one (1) day of Base Rent abatement for each day thereafter that Substantial Completion has not occurred; provided, however, that the Outside Date shall be subject to extension on a day-for-day basis as a result of (a) Force Majeure (as defined below) and (b) any delay caused by any action or inaction of Tenant (including, without limitation, any delays arising from the failure of Tenant to respond within the applicable time periods specified in the Work Letter and any delays due to Tenant Changes (as such term is defined below)). In the event that Tenant is entitled to Base Rent abatement under this Section, such Base Rent abatement shall be applied to Tenant's obligations to pay Base Rent commencing after expiration of the Free Rent Period (as defined below).

4.2 The "Term Commencement Date" shall be the earlier of (a) the date Tenant commences business in the Premises and (b) the day Landlord tenders possession of the Premises to Tenant with the Tenant Improvements Substantially Complete. If possession is delayed by action of Tenant (including, without limitation, any delays arising from the failure of Tenant to respond within the applicable time periods specified in the Work Letter and any delays due to Tenant Changes), then the Term Commencement Date shall be the date that the Term Commencement Date would have occurred but for such delay. Tenant shall execute and deliver to Landlord written acknowledgment of the actual Term Commencement Date and the Term Expiration Date within ten (10) days after Tenant takes occupancy of the Premises, in the form attached as Exhibit C hereto. Failure to execute and deliver such acknowledgment, however, shall not affect the Term Commencement Date or Landlord's or Tenant's liability hereunder. Failure by Tenant to obtain any governmental licensing or similar governmental approval of the Premises required for the Permitted Use by Tenant shall not serve to extend the Term Commencement Date.

4.3 Subject to the terms, conditions and provisions of this Section, Landlord shall provide Tenant with access to the Premises for the thirty (30)-day period immediately preceding the day that the Tenant Improvements are Substantially Complete (such thirty (30)-day period, the "Early Access Period"), for the sole purpose of the installation and placement of Tenant's furniture, fixtures, equipment and other personal property. During the Early Access Period, Tenant shall not interfere with Landlord's construction of the Tenant Improvements. Prior to any such access by Tenant, Tenant shall furnish to Landlord evidence satisfactory to Landlord that insurance coverages required of Tenant under the provisions of Article 23 are in effect, and such entry shall be subject to all the terms and conditions of this Lease; provided, however, Tenant shall have no obligation to pay Base Rent, Tenant's Adjusted Share of Operating Expenses, Monthly Parking Fee and the Property Management Fee until the actual Term Commencement Date, and provided, further, that if the Term Commencement Date is delayed due to such early access, then the Term Commencement Date shall be the date that the Term Commencement Date would have occurred but for such delay. Tenant will not be permitted to commence business in the Premises prior to the Term Commencement Date.

4.4 Landlord shall cause the Tenant Improvements to be constructed in the Premises pursuant to the Approved Plans at Landlord's sole cost and expense (subject to the terms, conditions and provisions of this Article 4). All costs incurred by Landlord in connection with the Tenant Improvements including, without limitation, costs of (a) construction, (b) project management by Landlord, (c) commissioning of mechanical, electrical and plumbing systems by a licensed, qualified commissioning agent hired by Landlord, (d) space planning, architect, engineering and other related services performed by third parties unaffiliated with Tenant, (e) building permits and other taxes, fees, charges and levies by Governmental Authorities (as defined below) for permits or for inspections of the Tenant Improvements, and (f) costs and expenses for labor, material, equipment and fixtures, shall be referred to in this Lease as the "Tenant Improvement Costs." In the event that Tenant fails to comply with any of its obligations under this Lease and such failure causes Landlord to incur additional Tenant Improvement Costs, Tenant shall pay to Landlord as Additional Rent (as defined below) the amount of any such additional costs within thirty (30) days of receiving an invoice from Landlord. Notwithstanding anything to the contrary in this Lease (including, without limitation, the Approved Plans), Landlord and Tenant acknowledge and agree that (x) the Tenant Improvements shall not include any furniture, fixtures and equipment, even though such items may be shown on the Approved Plans (Landlord and Tenant further acknowledging and agreeing that such items are included on the Approved Plans for illustrative purposes only), and (y) Tenant (not Landlord) shall be solely responsible for the purchase and installation of any and all furniture, fixtures and equipment at Tenant's sole cost. To the extent assignable, Landlord will assign to Tenant all warranties obtained by Landlord in connection with the Tenant Improvements; provided, however, that, notwithstanding any such assignment, Landlord shall also retain the right to enforce such warranties against the applicable contractor, at Landlord's sole option; provided, however, that if Landlord declines to prosecute such warranties, Tenant may do so at its sole cost and expense.

4.5 Any changes to the Approved Plans requested by Tenant (each, a "Tenant Change") shall be requested and instituted in accordance with the provisions of this Section 4.5 and shall be subject to the written approval of Landlord as provided herein.

4.5.1 Tenant may request Tenant Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "Tenant Change Request"), which Tenant Change Request shall detail the nature and extent of any requested Tenant Changes.

4.5.2 All Tenant Change Requests shall be subject to Landlord's prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed (provided, however, that, in the event any Tenant Change would, in Landlord's reasonable judgment, delay the Substantial Completion of the Tenant Improvements, Landlord may withhold its approval with respect thereto in its sole and absolute discretion). Landlord shall have five (5) business days after receipt of a Tenant Change Request to notify Tenant in writing of Landlord's approval or rejection of the Tenant Change and any rejection shall state the reasons therefor in reasonable detail. If Landlord fails to respond to a Tenant Change Request within the five (5) business day period above, then Tenant may send a second notice (the "Second Notice") to Landlord, which Second Notice shall include the following legend in capitalized and bold type displayed prominently on the top of the first page of such notice: "**LANDLORD HAS FAILED TO RESPOND TO A TENANT CHANGE REQUEST. FAILURE OF LANDLORD TO RESPOND TO THIS SECOND NOTICE WITHIN THREE (3) BUSINESS DAYS FOLLOWING THIS NOTICE SHALL CONSTITUTE LANDLORD'S APPROVAL OF THE TENANT CHANGE REQUEST**." If Landlord fails to respond within three (3) business days of the date of its receipt of the Second Notice, then such failure shall be deemed to constitute Landlord's approval of the Tenant Change Request.

4.5.3 Notwithstanding anything to the contrary in this Lease, Tenant shall be solely responsible for all costs and expenses related to any Tenant Changes including, without limitation, costs of project management by Landlord (which fee shall equal three percent (3%) of the cost of the Tenant Change). Tenant shall, within thirty (30) days of receiving an invoice therefore, pay to Landlord the amount of any such costs, unless Tenant delivers a notice in the form of Exhibit D electing to utilize the TI Allowance toward such costs. Once any TI Allowance is exhausted, or if Tenant elects not to apply any available TI Allowance, then all costs of such Tenant Changes will be payable solely by Tenant. If Tenant fails to pay, or is late in paying, any sum due to Landlord under this Section, then Landlord shall have all of the rights and remedies set forth in this Lease for nonpayment of Rent (including the right to interest and the right to assess a late charge), and for purposes of any litigation instituted with regard to such amounts the same shall be considered Rent.

4.5.4 Notwithstanding anything to the contrary in this Lease, in the event that any Tenant Change actually causes a delay in the Substantial Completion of the Tenant Improvements, the Term Commencement Date shall be the date that the Term Commencement Date would have occurred but for such delay.

4.5.5 The Approved Plans shall be automatically updated to include any Tenant Changes approved by Landlord in accordance with this Section 4.5.

4.6 Landlord shall be permitted to make changes to the Approved Plans (each, a "Landlord Change") subject to the terms, conditions and provisions of this Section 4.6. Landlord shall be solely responsible for all costs and expenses related to any Landlord Changes.

4.6.1 Landlord may request Landlord Changes by notifying Tenant in writing in substantially the same form as the AIA standard change order form (a "Landlord Change Request"), which Landlord Change Request shall detail the nature and extent of any requested Landlord Changes.

4.6.2 Subject to Subsection 4.6.3, all Landlord Change Requests other than Landlord Permitted Changes (as defined below), shall be subject to Tenant's prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed. Tenant shall have five (5) business days after receipt of a Landlord Change Request to notify Landlord in writing of Tenant's approval or rejection of the Landlord Change. Tenant's failure to respond within such five (5) business day period shall be deemed approval by Tenant.

4.6.3 Notwithstanding anything to the contrary in this Lease, Landlord shall be permitted to make Landlord Permitted Changes (as defined below) without obtaining Tenant's consent. "Landlord Permitted Changes" shall mean (a) minor changes (such as slight relocation of switches and/or outlets) to accommodate unforeseen field conditions and (b) changes required by Applicable Laws or by a Governmental Authority.

4.6.4 The Approved Plans shall be automatically updated to include any Landlord Permitted Changes or other Landlord Changes approved by Tenant in accordance with this Section 4.6.

4.7 Tenant will have the right, by delivery of written notice to Landlord in the form of Exhibit D at any time prior to the TI Deadline (as defined below) to require Landlord to make disbursements, the total amount of all such disbursements not to exceed Two Hundred Ninety-Two Thousand One Hundred Ten and 00/100 Dollars ($292,110.00) (based upon Fifteen Dollars ($15.00) per square foot of Rentable Area (as defined below)) (the "TI Allowance") toward the cost of Tenant Changes. The TI Allowance will only be disbursed in the event Tenant requests that Landlord disburse such TI Allowance in accordance with the terms and conditions of this Lease. Tenant shall have until the date which is six (6) months after the Term Commencement Date (the "TI Deadline"), to submit a request for disbursement of the TI Allowance, after which date Landlord's obligation to fund any such costs shall expire. In no event shall the TI Allowance be used for (v) the cost of work not authorized by the Approved Plans, (w) payments to Tenant or any affiliates of Tenant, (x) the purchase of any furniture, personal property or other non-building system equipment, (y) costs arising from any default by Tenant of its obligations under this Lease or (z) costs that are recoverable by Tenant from a third party (e.g., insurers, warrantors, or tortfeasors). If Tenant requests disbursement of the TI Allowance, initial Base Rent shall be increased to include the amount of the TI Allowance disbursed by Landlord in accordance with this Lease amortized over the remainder of the initial Term after the scheduled expiration of the Free Rent Period (as defined below) at a rate of eight percent (8%) annually. The amount by which Base Rent shall be increased shall be determined (and Base Rent shall be increased accordingly) as of the date immediately following the scheduled expiration of the Free Rent Period and, if such determination does not reflect use by Tenant of all of the TI Allowance, shall be determined again as of the TI Deadline, with Tenant paying (on the next succeeding day that Base Rent is due under this Lease (the "TI True-Up Date")) any underpayment of the further adjusted Base Rent for the period beginning on the date immediately following the scheduled expiration of the Free Rent Period and ending on the TI True-Up Date. The initial Base Rent, as adjusted to reflect the disbursement of the TI Allowance in accordance with this Section, shall be subject to further annual adjustments as set forth in Section 8.1.

4.8 Landlord shall not be obligated to expend any portion of the TI Allowance until Landlord shall have received from Tenant a letter in the form attached as Exhibit D hereto executed by an authorized officer of Tenant. In no event shall any unused TI Allowance entitle Tenant to a credit against Rent payable under this Lease.

5. Condition of Premises. Tenant acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of the Premises, the Building or the Project, or with respect to the suitability of the Premises, the Building or the Project for the conduct of Tenant's business. Tenant acknowledges that (a) it is fully familiar with the condition of the Premises and agrees to take the same in its condition "as is" as of the Term Commencement Date and (b) Landlord shall have no obligation to alter, repair or otherwise prepare the Premises for Tenant's occupancy or to pay for or construct any improvements to the Premises, except for performance of the Tenant Improvements and, if properly requested by Tenant, payment of the TI Allowance. Notwithstanding the foregoing, Landlord shall deliver the Premises to Tenant on the Term Commencement Date with the Tenant Improvements in

substantial compliance with Applicable Laws as required for Tenant's occupancy of the Premises for typical general office and lab uses, broom clean, and with the heating, ventilating and air conditioning, electrical, fire sprinkler and plumbing systems serving the Premises in good working order, condition and repair (such obligation, "Landlord's Delivery Obligation"). Tenant's taking possession of the Premises shall, except as otherwise agreed to in writing by Landlord and Tenant, conclusively establish that the Premises, the Building and the Project were at such time in good, sanitary and satisfactory condition and repair and that Landlord's Delivery Obligation was satisfied; provided that, if Landlord fails to satisfy Landlord's Delivery Obligation (a "Delivery Shortfall"), then Tenant may, as its sole and exclusive remedy, deliver notice of such failure to Landlord detailing the nature of such failure (a "Shortfall Notice"); provided, further, that any Shortfall Notice must be received by Landlord no later than the date (the "Shortfall Notice Deadline") that is sixty (60) days after the Term Commencement Date. In the event that Landlord receives a Shortfall Notice on or before the Shortfall Notice Deadline, Landlord shall, at Landlord's expense (and not as a part of Operating Expenses), promptly remedy the Delivery Shortfall. Landlord shall not have any obligations or liabilities in connection with a failure to satisfy Landlord's Delivery Obligation except to the extent such failure is identified by Tenant in a Shortfall Notice delivered to Landlord on or before the Shortfall Notice Deadline. Notwithstanding anything to the contrary in this Lease, Landlord shall not have any obligations or liabilities in connection with any failure of the above referenced systems to be in good working order, condition or repair due to any event, circumstance or other factor arising or occurring after the Term Commencement Date (including, without limitation, (i) any act or omission of Tenant, Tenant's contractors or subcontractors, or any of their respective employees, agents or invitees, or (ii) Tenant's failure to properly repair or maintain the Premises as required by this Lease), and no Delivery Shortfall shall be deemed to have occurred as a result thereof.

6. Rentable Area.

6.1 The term "Rentable Area" shall reflect such areas as reasonably calculated by Landlord's architect, as the same may be reasonably adjusted from time to time by Landlord in consultation with Landlord's architect to reflect changes to the Premises, the Building or the Project, as applicable. Notwithstanding anything to the contrary in this Article 6, in no event shall the Rentable Area of the Premises, the Building or the Project be deemed to have increased or decreased unless due to a physical change of any of the same.

6.2 The Rentable Area of the Building is generally determined by making separate calculations of Rentable Area applicable to each floor within the Building and totaling the Rentable Area of all floors within the Building. The Rentable Area of a floor is computed by measuring to the outside finished surface of the permanent outer Building walls. The full area calculated as previously set forth is included as Rentable Area, without deduction for columns and projections or vertical penetrations, including stairs, elevator shafts, flues, pipe shafts, vertical ducts and the like, as well as such items' enclosing walls.

6.3 The term "Rentable Area," when applied to the Premises, is that area equal to the usable area of the Premises, plus an equitable allocation of Rentable Area within the Building that is not then utilized or expected to be utilized as usable area, including that portion of the Building devoted to corridors, equipment rooms, restrooms, elevator lobby, atrium and mailroom.

6.4 Notwithstanding anything contained herein to the contrary, Landlord makes no representation or warranty about the Rentable Area of the Premises, the Building or the Project.

7. Rent.

7.1 Tenant shall pay to Landlord as Base Rent for the Premises, commencing on the Term Commencement Date, the sums set forth in Section 2.3, subject to the rental adjustments and the Free Rent Period provided in Article 8 hereof. Base Rent shall be paid in equal monthly installments as set forth in Section 2.3, subject to the rental adjustments and Free Rent Period provided in Article 8 hereof, each in advance on the first day of each and every calendar month during the Term.

7.2 In addition to Base Rent, Tenant shall pay to Landlord as additional rent ("Additional Rent") at times hereinafter specified in this Lease (a) Tenant's Adjusted Share (as defined below) of Operating Expenses (as defined below), (b) the Property Management Fee (as defined below), and (c) any other amounts that Tenant assumes or agrees to pay under the provisions of this Lease that are owed to Landlord, including any and all other sums that may become due by reason of any default of Tenant or failure on Tenant's part to comply with the agreements, terms, covenants and conditions of this Lease to be performed by Tenant, after notice and the lapse of any applicable cure periods.

7.3 Base Rent and Additional Rent shall together be denominated "Rent." Rent shall be paid to Landlord, without abatement, deduction or offset, in lawful money of the United States of America to the address set forth in Section 2.8 or to such other person or at such other place as Landlord may from time designate in writing. In the event the Term commences or ends on a day other than the first day of a calendar month, then the Rent for such fraction of a month shall be prorated for such period on the basis of the number of days in the month and shall be paid at the then-current rate for such fractional month.

7.4 Tenant's obligation to pay Rent shall not be discharged or otherwise affected by (a) any Applicable Laws now or hereafter applicable to the Premises, (b) any other restriction on Tenant's use, (c) except as expressly provided herein, any casualty or taking or (d) any other occurrence; and Tenant waives all rights now or hereafter existing to terminate or cancel this Lease or quit or surrender the Premises or any part thereof, or to assert any defense in the nature of constructive eviction to any action seeking to recover rent. Tenant's obligation to pay Rent with respect to any period or obligations arising, existing or pertaining to the period prior to the date of the expiration or earlier termination of the Term or this Lease shall survive any such expiration or earlier termination; provided, however, that nothing in this sentence shall in any way affect Tenant's obligations with respect to any other period.

8. Rent Adjustments; Free Rent Period.

8.1 Base Rent (including any increase to Base Rent arising from any disbursement of the TI Allowance by Landlord in accordance with this Lease) shall be subject to an annual upward adjustment of three and one half percent (3.5%) of the then-current Base Rent. The first such adjustment shall become effective commencing on the first (1st) annual anniversary of the Term Commencement Date, and subsequent adjustments shall become effective on every successive annual anniversary for so long as this Lease continues in effect.

8.2 Notwithstanding anything to the contrary contained in this Lease, and so long as no Default (as defined below) by Tenant has occurred, Tenant shall not be required to pay Base Rent for months two (2) and three (3) of the Term (such period, the "Free Rent Period"); provided, however, that the total amount of Base Rent abated during the Free Rent Period shall not exceed Two Hundred Twelve Thousand Two Hundred Sixty-Six and 60/100 Dollars ($212,266.60) (the "Free Rent Cap"). The Free Rent Cap shall not be increased as a result of any increase in Base Rent arising from Landlord's disbursement of any TI Allowance. During the Free Rent Period, Tenant shall continue to be responsible for the payment of all of Tenant's other Rent obligations under this Lease, including all Additional Rent such as Operating Expenses, Monthly Parking Fee, the Property Management Fee, and costs of utilities for the Premises. Upon the occurrence of any Default, the Free Rent Period shall immediately expire, and Tenant shall no longer be entitled to any further abatement of Base Rent pursuant to this Section. In the event of any Default that results in termination of this Lease, then, as part of the recovery to which Landlord is entitled pursuant to this Lease, and in addition to any other rights or remedies to which Landlord may be entitled pursuant to this Lease (including Article 31), at law or in equity, Landlord shall be entitled to the immediate recovery, as of the day immediately prior to such termination of the Lease, of the unamortized amount of Base Rent that Tenant would have paid had the Free Rent Period not been in effect.

9. Operating Expenses.

9.1 As used herein, the term "Operating Expenses" shall include:

(a) Government impositions, including property tax costs consisting of real and personal property taxes (including amounts due under any improvement bond upon the Building or the Project (including the parcel or parcels of real property upon which the Building and areas serving the Building and the Project are located)) or assessments in lieu thereof imposed by any federal, state, regional, local or municipal governmental authority, agency or subdivision (each, a "Governmental Authority"); taxes on or measured by gross rentals received from the rental of space in the Project; taxes based on the square footage of the Premises, the Building or the Project, as well as any parking charges, utilities surcharges or any other costs levied, assessed or imposed by, or at the direction of, or arising from Applicable Laws or interpretations thereof, promulgated by any Governmental Authority in connection with the use or occupancy of the Project or the parking facilities serving the Project; taxes on this transaction or any document to which Tenant is a party creating or transferring an interest in the Premises; any fee for a business license to operate an office building; any expenses, including the reasonable cost of attorneys or experts, reasonably incurred by Landlord in seeking reduction by the taxing authority of the applicable taxes, less tax refunds obtained as a result of an application for review thereof; and any taxes payable by Landlord under the Ground Lease; and

(b) All other costs of any kind paid or incurred by Landlord in connection with the operation or maintenance of the Building and the Project, which shall include additional rent under the Ground Lease (meaning "Tenant's Share" of "Operating Expenses" (as such terms are defined in the Ground Lease) under the Ground Lease, but not any "Base Rent" under the Ground Lease), Project office rent at fair market rental for a commercially reasonable amount of space for Project management personnel, to the extent an office used for Project operations is maintained at the Project, plus customary expenses for such office, and costs of repairs and replacements to improvements within the Project as appropriate to maintain the Project as required hereunder, including costs of funding such reasonable reserves as Landlord, consistent with good business practice, may establish to provide for future repairs and replacements, or as any Lender (as defined below) or the Ground Lessor may require; costs of utilities furnished to the Common Area; sewer fees; cable television; trash collection; cleaning, including windows; heating, ventilation and air-conditioning ("HVAC"); maintenance of landscaping and grounds; maintenance of drives and parking areas; maintenance of the roof; security services and devices; building supplies; maintenance or replacement of equipment utilized for operation and maintenance of the Project; license, permit and inspection fees; sales, use and excise taxes on goods and services purchased by Landlord in connection with the operation, maintenance or repair of the Building or Project systems and equipment; telephone, postage, stationery supplies and other expenses incurred in connection with the operation, maintenance or repair of the Project; accounting, reasonable legal and other professional fees and expenses incurred in connection with the Project; costs of furniture, draperies, carpeting, landscaping supplies, and other customary and ordinary items of personal property provided by Landlord for use in Common Area or in the Project office; capital expenditures incurred (i) in replacing obsolete equipment, (ii) for the primary purpose of reducing Operating Expenses or (iii) required by any Governmental Authority to comply with changes in Applicable Laws that take effect after the Execution Date or to ensure continued compliance with Applicable Laws in effect as of the Execution Date, in each case amortized over the useful life thereof, as reasonably determined by Landlord, in accordance with generally accepted accounting principles; costs of complying with Applicable Laws (except to the extent such costs are incurred to remedy non-compliance as of the Execution Date with Applicable Laws); costs to keep the Project in compliance with, or costs or fees otherwise required under or incurred pursuant to any CC&Rs or Property Operations Documents (as each such term is defined below), including condominium fees; insurance premiums, including premiums for commercial general liability, property casualty, earthquake, terrorism and environmental coverages; portions of insured losses paid by Landlord as part of the deductible portion of a loss pursuant to the terms of insurance policies; service contracts; costs of services of independent contractors retained to do work of a nature referenced above; and costs of compensation (including employment taxes and fringe benefits) of all persons who perform regular and recurring duties connected with the day-to-day operation and maintenance of the Project, its equipment, the adjacent walks, landscaped areas, drives and parking areas, including janitors, floor waxers, window washers, watchmen, gardeners, sweepers, plow truck drivers, handymen, and engineering/maintenance/facilities personnel.

(c) Notwithstanding the foregoing, Operating Expenses shall not include any net income, franchise, capital stock, estate or inheritance taxes; transfer taxes or other taxes incurred in connection with Landlord's sale of the Premises or any interest therein, exclusive of increases in real property taxes in connection with any such sale, which shall be expressly included in Operating Expenses; taxes that are the personal obligation of Tenant or of another tenant of the Project; penalties, fees or other costs arising out of Landlord's failure to timely pay real property taxes (except where Tenant is late in paying its taxes due hereunder); costs of any third-party property management fee outside of the Property Management Fee; base rent under the Ground Lease; any leasing commissions; expenses that relate to preparation of rental space for a tenant; expenses of initial development and construction, including grading, paving, landscaping and decorating (as distinguished from maintenance, repair and replacement of the foregoing); legal

expenses relating to other tenants; costs of initial construction of any additional buildings not currently in existence at the Project (provided that the foregoing will not be deemed to exclude costs of repair or maintenance of any additional buildings); costs of repairs to the extent reimbursed by payment of insurance proceeds received by Landlord; interest upon loans to Landlord or secured by a loan agreement, mortgage, deed of trust, security instrument or other loan document covering the Project or a portion thereof (collectively, "Loan Documents") (provided that interest upon a government assessment or improvement bond payable in installments shall constitute an Operating Expense under Subsection 9.1(a)); salaries of executive officers of Landlord; depreciation claimed by Landlord for tax purposes (provided that this exclusion of depreciation is not intended to delete from Operating Expenses actual costs of repairs and replacements and reasonable reserves in regard thereto that are provided for in Subsection 9.1(b)); taxes that are excluded from Operating Expenses by the last sentence of Subsection 9.1(a); costs incurred to remedy violations of Applicable Laws in the Common Areas to the extent such violations existed prior to the Term Commencement Date; costs expressly excluded from Operating Expenses elsewhere in this Lease or that are charged to or paid by Tenant under other provisions of this Lease; bad debt loss; principal, interest, fees and penalties upon loans to Landlord or secured by a loan agreement, mortgage, deed of trust, security instrument or other loan document covering the Ground Lease, the Project or a portion thereof; costs or expenses incurred in connection with the financing or sale of the Project or any portion thereof, exclusive of increases in real property taxes in connection with any such financing or sale, which shall be expressly included in Operating Expenses; costs of goods or services provided by an affiliate of Landlord to the extent that the costs of such goods or services exceed the competitive cost for such goods or services rendered by persons or entities of similar skill, competence and experience; costs incurred solely and directly due to the gross negligence or willful misconduct of Landlord; professional fees and disbursements and other costs and expenses related to the ownership (as opposed to the use, occupancy, operation, maintenance or repair) of the Project; and any item that, if included in Operating Expenses, would involve a double collection for such item by Landlord. To the extent that Tenant uses more than Tenant's Pro Rata Share of any item of Operating Expenses, Tenant shall pay Landlord for such excess in addition to Tenant's obligation to pay Tenant's Pro Rata Share of Operating Expenses (such excess, together with Tenant's Pro Rata Share, "Tenant's Adjusted Share").

9.2 Tenant shall pay to Landlord on the first day of each calendar month of the Term, as Additional Rent, (a) the Property Management Fee (as defined below), and (b) Landlord's estimate of Tenant's Adjusted Share of Operating Expenses with respect to the Building and the Project, as applicable, for such month.

(a) The "Property Management Fee" shall equal three percent (3%) of Base Rent due from Tenant. Tenant shall pay the Property Management Fee in accordance with Section 9.2 with respect to the entire Term, including the Free Rent Period, any extensions of the Term, or any holdover periods, regardless of whether Tenant is obligated to pay Base Rent, Operating Expenses or any other Rent with respect to any such period or portion thereof. During any Free Rent Period, the Property Management Fee shall be calculated as if Tenant were paying Base Rent in the full amount required pursuant to this Lease had the Free Rent Period not been in effect.

(b) Within two hundred ten (210) days after the conclusion of each calendar year (or such longer period as may be reasonably required by Landlord), Landlord shall use commercially reasonable efforts to furnish to Tenant a statement showing in reasonable detail the actual Operating Expenses, Tenant's Adjusted Share of Operating Expenses, and the cost of providing utilities to the Premises for the previous calendar year ("Landlord's Statement"). Any additional sum due from Tenant to Landlord shall be due and payable within thirty (30) days after receipt of an invoice therefor. If the amounts paid by Tenant pursuant to this Section exceed Tenant's Adjusted Share of Operating Expenses for the previous calendar year, then Landlord shall credit the difference against the Rent next due and owing from Tenant; provided that, if the Lease term has expired, Landlord shall accompany Landlord's Statement with payment for the amount of such difference.

(c) Any amount due under this Section for any period that is less than a full month shall be prorated for such fractional month on the basis of the number of days in the month.

9.3 Landlord or an affiliate(s) of Landlord currently own other property(ies) in the San Diego area (collectively, "Neighboring Properties"). In connection with Landlord performing services for the Project pursuant to this Lease, similar services may be performed by the same vendor(s) for Neighboring Properties. In such a case, Landlord shall reasonably allocate to each Building and the Project the costs for such services based upon the ratio that the square footage of the Building or the Project (as applicable) bears to the total square footage of all of the Neighboring Properties or buildings within the Neighboring Properties for which the services are performed, unless the scope of the services performed for any building or property (including the Building and the Project) is disproportionately more or less than for others, in which case Landlord shall equitably allocate the costs based on the scope of the services being performed for each building or property (including the Building and the Project).

9.4 Landlord's annual statement shall be final and binding upon Tenant unless Tenant, within thirty (30) days after Tenant's receipt thereof, shall contest any item therein by giving written notice to Landlord, specifying each item contested and the reasons therefor; provided that Tenant shall in all events pay the amount specified in Landlord's annual statement, pending the results of the Independent Review and determination of the Accountant(s), as applicable and as each such term is defined below. If, during such thirty (30)-day period, Tenant reasonably and in good faith questions or contests the correctness of Landlord's statement of Tenant's Adjusted Share of Operating Expenses, Landlord shall provide Tenant with reasonable access to Landlord's books and records to the extent relevant to determination of Operating Expenses, and such information as Landlord reasonably determines to be responsive to Tenant's written inquiries. In the event that, after Tenant's review of such information, Landlord and Tenant cannot agree upon the amount of Tenant's Adjusted Share of Operating Expenses, then Tenant shall have the right to have an independent public accounting firm hired by Tenant on an hourly basis and not on a contingent-fee basis (at Tenant's sole cost and expense) and approved by Landlord (which approval Landlord shall not unreasonably withhold or delay) audit and review such of Landlord's books and records for the year in question as directly relate to the determination of Operating Expenses for such year (the "Independent Review"), but not books and records of entities other than Landlord. Landlord shall make such books and records available at the location where Landlord maintains them in the ordinary course of its business. Landlord need not provide copies of any books or records. Tenant shall commence the Independent Review within fifteen (15) days after the date Landlord has given Tenant access to Landlord's books and records for the Independent Review. Tenant shall complete the Independent Review and notify Landlord in

writing of Tenant's specific objections to Landlord's calculation of Operating Expenses (including Tenant's accounting firm's written statement of the basis, nature and amount of each proposed adjustment) no later than sixty (60) days after Landlord has first given Tenant access to Landlord's books and records for the Independent Review. Landlord shall review the results of any such Independent Review. The parties shall endeavor to agree promptly and reasonably upon Operating Expenses taking into account the results of such Independent Review. If, as of the date that is sixty (60) days after Tenant has submitted the Independent Review to Landlord, the parties have not agreed on the appropriate adjustments to Operating Expenses, then the parties shall engage a mutually agreeable independent third party accountant with at least ten (10) years' experience in commercial real estate accounting in the San Diego, California area (the "Accountant"). If the parties cannot agree on the Accountant, each shall within ten (10) days after such impasse appoint an Accountant (different from the accountant and accounting firm that conducted the Independent Review) and, within ten (10) days after the appointment of both such Accountants, those two Accountants shall select a third (which cannot be the accountant and accounting firm that conducted the Independent Review). If either party fails to timely appoint an Accountant, then the Accountant the other party appoints shall be the sole Accountant. Within ten (10) days after appointment of the Accountant(s), Landlord and Tenant shall each simultaneously give the Accountants (with a copy to the other party) its determination of Operating Expenses, with such supporting data or information as each submitting party determines appropriate. Within ten (10) days after such submissions, the Accountants shall by majority vote select either Landlord's or Tenant's determination of Operating Expenses. The Accountants may not select or designate any other determination of Operating Expenses. The determination of the Accountant(s) shall bind the parties. If the parties agree or the Accountant(s) determine that the Operating Expenses actually paid by Tenant for the calendar year in question exceeded Tenant's obligations for such calendar year, then Landlord shall, at Tenant's option, either (a) credit the excess to the next succeeding installments of estimated Additional Rent or (b) pay the excess to Tenant within thirty (30) days after delivery of such results. If the parties agree or the Accountant(s) determine that Tenant's payments of Operating Expenses for such calendar year were less than Tenant's obligation for the calendar year, then Tenant shall pay the deficiency to Landlord within thirty (30) days after delivery of such results. If the Independent Review reveals or the Accountant(s) determine that the Operating Expenses billed to Tenant by Landlord and paid by Tenant to Landlord for the applicable calendar year in question exceeded by more than ten percent (10%) what Tenant should have been billed during such calendar year, then Landlord shall pay the reasonable cost of the Independent Review. In all other cases, Tenant shall pay the cost of the Independent Review. In all instances, Tenant shall pay the cost of the Accountant(s).

9.5 Tenant shall not be responsible for Operating Expenses with respect to any time period prior to the Term Commencement Date; provided, however, that Landlord may annualize certain Operating Expenses incurred prior to the Term Commencement Date over the course of the budgeted year during which the Term Commencement Date occurs, and Tenant shall be responsible for the annualized portion of such Operating Expenses corresponding to the number of days during such year, commencing with the Term Commencement Date, for which Tenant is otherwise liable for Operating Expenses pursuant to this Lease. Tenant's responsibility for Tenant's Adjusted Share of Operating Expenses shall continue to the latest of (a) the date of termination of the Lease, (b) the date Tenant has fully vacated the Premises and (c) if termination of the Lease is due to a default by Tenant, the date of rental commencement of a replacement tenant; provided, however, in no event shall such date be later than the date the Lease would have naturally expired.

9.6 Operating Expenses for the calendar year in which Tenant's obligation to share therein commences and for the calendar year in which such obligation ceases shall be prorated on a basis reasonably determined by Landlord and in a non-discriminatory manner with all other tenants of the Project. Expenses such as taxes, assessments and insurance premiums that are incurred for an extended time period shall be prorated based upon the time periods to which they apply so that the amounts attributed to the Premises relate in a reasonable manner to the time period wherein Tenant has an obligation to share in Operating Expenses.

9.7 Within thirty (30) days after the end of each calendar month, Tenant shall submit to Landlord an invoice, or, in the event an invoice is not available, an itemized list, of all costs and expenses that (a) Tenant has incurred (either internally or by employing third parties) during the prior month and (b) for which Tenant reasonably believes it is entitled to reimbursements from Landlord pursuant to the terms of this Lease or that Tenant reasonably believes is the responsibility of Landlord pursuant to this Lease or the Work Letter.

9.8 In the event that the Building or Project is less than fully occupied during a calendar year, Tenant acknowledges that Landlord may extrapolate Operating Expenses that vary depending on the occupancy of the Building or Project, as applicable, to equal Landlord's reasonable estimate of what such Operating Expenses would have been had the Building or Project, as applicable, been ninety-five percent (95%) occupied during such calendar year; provided, however, that Landlord shall not recover more than one hundred percent (100%) of Operating Expenses.

10. Taxes on Tenant's Property.

10.1 Tenant shall be solely responsible for the payment of any and all taxes levied upon (a) Tenant's personal property and trade fixtures located at the Premises and (b) any gross or net receipts of or sales by Tenant, and shall pay the same prior to delinquency.

10.2 If any such taxes on Tenant's personal property or trade fixtures are levied against Landlord or Landlord's property or, if the assessed valuation of the Building, the Property or the Project is increased by inclusion therein of a value attributable to Tenant's personal property or trade fixtures, and if Landlord, after written notice to Tenant, pays the taxes based upon any such increase in the assessed value of the Building, the Property or the Project, then Tenant shall, upon demand, repay to Landlord the taxes so paid by Landlord with Tenant's next payment of Additional Rent (or within thirty (30) days after demand, whichever is sooner).

10.3 If any improvements in or alterations to the Premises, whether owned by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, are assessed for real property tax purposes at a valuation higher than the valuation at which improvements conforming to Landlord's building standards (the "Building Standard") in other spaces in the Building are assessed, then the real property taxes and assessments levied against Landlord or the Building, the Property or the Project by reason of such excess assessed valuation shall be deemed to be taxes levied against personal property of Tenant and shall be governed by the provisions of Section 10.2. Any such excess assessed valuation due to improvements in or

alterations to space in the Project leased by other tenants at the Project shall not be included in Operating Expenses. If the records of the applicable governmental assessor's office are available and sufficiently detailed to serve as a basis for determining whether such Tenant improvements or alterations are assessed at a higher valuation than the Building Standard, then such records shall be binding on both Landlord and Tenant.

11. Security Deposit.

11.1 Tenant shall deposit with Landlord on or before the Execution Date the sum set forth in Section 2.6 (the "Security Deposit"), which sum shall be held by Landlord as security for the faithful performance by Tenant of all of the terms, covenants and conditions of this Lease to be kept and performed by Tenant. If Tenant Defaults (as defined below) with respect to any provision of this Lease, including any provision relating to the payment of Rent, then Landlord may (but shall not be required to) use, apply or retain all or any part of the Security Deposit for the payment of any Rent or any other sum in default, or to compensate Landlord for any other loss or damage that Landlord may suffer by reason of Tenant's Default. If any portion of the Security Deposit is so used or applied, then Tenant shall, within ten (10) business days following written demand therefor, deposit cash with Landlord in an amount sufficient to restore the Security Deposit to its original amount, and Tenant's failure to do so shall be a material breach of this Lease. The provisions of this Article shall survive the expiration or earlier termination of this Lease. TENANT HEREBY WAIVES THE REQUIREMENTS OF SECTION 1950.7 OF THE CALIFORNIA CIVIL CODE, AS THE SAME MAY BE AMENDED FROM TIME TO TIME.

11.2 In the event of bankruptcy or other debtor-creditor proceedings against Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for all periods prior to the filing of such proceedings.

11.3 Landlord may deliver to any purchaser of Landlord's interest in the Premises the funds deposited hereunder by Tenant, and thereupon Landlord shall be discharged from any further liability with respect to such deposit. This provision shall also apply to any subsequent transfers.

11.4 If Tenant shall fully and faithfully perform every provision of this Lease to be performed by it, then the Security Deposit, or any balance thereof, shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) within sixty (60) days after the expiration or earlier termination of this Lease.

11.5 If the Security Deposit shall be in cash, Landlord shall hold the Security Deposit in an account at a banking organization selected by Landlord; provided, however, that Landlord shall not be required to maintain a separate account for the Security Deposit, but may intermingle it with other funds of Landlord. Landlord shall be entitled to all interest and/or dividends, if any, accruing on the Security Deposit. Landlord shall not be required to credit Tenant with any interest for any period during which Landlord does not receive interest on the Security Deposit.

11.6 The Security Deposit may be in the form of cash, a letter of credit or any other security instrument acceptable to Landlord in its sole discretion. Tenant may at any time, except when Tenant is in Default (as defined below), deliver a letter of credit (the "L/C Security") as the entire Security Deposit, as follows:

(a) If Tenant elects to deliver L/C Security, then Tenant shall provide Landlord, and maintain in full force and effect throughout the Term and until the date that is four (4) months after the then-current Term Expiration Date, a letter of credit in the form of Exhibit E issued by an issuer reasonably satisfactory to Landlord, in the amount of the Security Deposit, with an initial term of at least one year. Landlord approves Silicon Valley Bank as the issuer of the initial L/C Security as of the Execution Date; provided, however, that Landlord reserves the right to require a different issuer in the event Silicon Valley Bank's financial status changes after the Execution Date. Landlord may require the L/C Security to be re-issued by a different issuer at any time during the Term if Landlord reasonably believes that the issuing bank of the L/C Security is or may soon become insolvent; provided, however, Landlord shall return the existing L/C Security to the existing issuer immediately upon receipt of the substitute L/C Security. If any issuer of the L/C Security shall become insolvent or placed into FDIC receivership, then Tenant shall promptly deliver to Landlord (without the requirement of notice from Landlord) substitute L/C Security issued by an issuer reasonably satisfactory to Landlord, and otherwise conforming to the requirements set forth in this Article. As used herein with respect to the issuer of the L/C Security, "insolvent" means the determination of insolvency as made by such issuer's primary bank regulator (*i.e.*, the state bank supervisor for state chartered banks; the OCC or OTS, respectively, for federally chartered banks or thrifts; or the Federal Reserve for its member banks). If, at the Term Expiration Date, any Rent remains uncalculated or unpaid, then (i) Landlord shall with reasonable diligence complete any necessary calculations, (ii) Tenant shall extend the expiry date of such L/C Security from time to time as Landlord reasonably requires and (iii) in such extended period, Landlord shall not unreasonably refuse to consent to an appropriate reduction of the L/C Security. Tenant shall reimburse Landlord's reasonable legal costs incurred in handling Landlord's acceptance of L/C Security or its replacement or extension.

(b) If Tenant delivers to Landlord satisfactory L/C Security in place of the entire Security Deposit, Landlord shall promptly remit to Tenant any cash Security Deposit Landlord previously held.

(c) Landlord may draw upon the L/C Security, and hold and apply the proceeds in the same manner and for the same purposes as the Security Deposit, if (i) an uncured Default (as defined below) exists, (ii) as of the date that is forty-five (45) days before any L/C Security expires (even if such scheduled expiry date is after the Term Expiration Date) Tenant has not delivered to Landlord an amendment or replacement for such L/C Security, reasonably satisfactory to Landlord, extending the expiry date to the earlier of (1) four (4) months after the then-current Term Expiration Date or (2) the date that is one year after the then-current expiry date of the L/C Security, (iii) the L/C Security provides for automatic renewals, Landlord asks the issuer to confirm the current L/C Security expiry date, and the issuer fails to do so within ten (10) business days, (iv) Tenant fails to pay (when and as Landlord reasonably requires) any bank charges for Landlord's transfer of the L/C Security or (v) the issuer of the L/C Security ceases, or announces that it will cease, to maintain an office in the city where Landlord may present drafts under the L/C Security (and fails to permit drawing upon the L/C Security by overnight courier or facsimile). This Section does not limit any other provisions of this Lease allowing Landlord to draw the L/C Security under specified circumstances.

(d) Tenant shall not seek to enjoin, prevent, or otherwise interfere with Landlord's draw under L/C Security, even if it violates this Lease. Tenant acknowledges that the only effect of a wrongful draw would be to substitute a cash Security Deposit for L/C Security, causing Tenant no legally recognizable damage. Landlord shall hold the proceeds of any draw in the same manner and for the same purposes as a cash Security Deposit. In the event of a wrongful draw, the parties shall cooperate to allow Tenant to post replacement L/C Security simultaneously with the return to Tenant of the wrongfully drawn sums, and Landlord shall upon request confirm in writing to the issuer of the L/C Security that Landlord's draw was erroneous.

(e) If Landlord transfers its interest in the Premises, then Tenant shall at Tenant's expense, within five (5) business days after receiving a written request from Landlord, deliver (and, if the issuer requires, Landlord shall consent to) an amendment to the L/C Security naming Landlord's grantee as substitute beneficiary. If the required Security Deposit changes while L/C Security is in force, then Tenant shall deliver (and, if the issuer requires, Landlord shall consent to) a corresponding amendment to the L/C Security.

12. Use.

12.1 Tenant shall use the Premises for the Permitted Use, and shall not use the Premises, or permit or suffer the Premises to be used, for any other purpose without Landlord's and Ground Lessor's prior written consent, which consent Landlord or Ground Lessor may withhold in its sole and absolute discretion. Tenant shall be prohibited from using the Premises or any portion of the Property for the sale, distribution or production of marijuana. In no event shall any scientific, technological or industrial research program which includes any research which is designated by the United States Government as classified, constitute a Permitted Use.

12.2 Tenant shall not use or occupy the Premises, and shall not permit the Premises or any portion of the Project to be used or occupied, in violation of Applicable Laws; zoning ordinances; or the certificate of occupancy (or its substantial equivalent) issued for the Building or the Project, and shall, upon five (5) business days' written notice from Landlord, discontinue any use of the Premises that is declared or claimed by any Governmental Authority having jurisdiction to be a violation of any of the above, or that in Landlord's reasonable opinion violates any of the above. Tenant shall take such further actions and execute such further commercially reasonable documents in connection with this Lease as are necessary to comply with Applicable Laws relating to privacy, personal information and data security, including the California Consumer Privacy Act. Tenant acknowledges that Landlord may collect certain personal information (e.g., names, email addresses and contact information) of Tenant's and its affiliates' employees (and, if applicable, subcontractors and consultants), and use such information in connection with performing Landlord's duties and obligations, and exercising its rights under this Lease. Tenant shall not retain, use or disclose any personal information received from Landlord pursuant to this Lease for any purpose other than to perform its duties and obligations, and exercise its rights under this Lease or as required by Applicable Law. In the event of a conflict between this Section and Article 38, this Section shall govern. Tenant shall comply with any direction of any Governmental Authority having jurisdiction that shall, by reason of the nature of Tenant's use or occupancy of the Premises, impose any duty upon Tenant or Landlord with respect to the Premises or with respect to the use or occupation thereof, and shall indemnify, defend (at the option of and with counsel reasonably acceptable to the indemnified party(ies)), save, reimburse and hold harmless (collectively,

"Indemnify," "Indemnity" or "Indemnification," as the case may require) Landlord and its affiliates, employees, agents and contractors; and any lender, mortgagee, ground lessor or beneficiary (each, a "Lender" and, collectively with Landlord and its affiliates, employees, agents and contractors, the "Landlord Indemnitees") harmless from and against any and all demands, claims, liabilities, losses, costs, expenses, actions, causes of action, damages, suits or judgments, and all reasonable expenses (including reasonable attorneys' fees, charges and disbursements, regardless of whether the applicable demand, claim, action, cause of action or suit is voluntarily withdrawn or dismissed) incurred in investigating or resisting the same (collectively, "Claims") of any kind or nature that arise before, during or after the Term as a result of Tenant's breach of this Section.

12.3 Tenant shall not do or permit to be done anything that will invalidate or increase the cost of any fire, environmental, extended coverage or any other insurance policy covering the Building or the Project, and shall comply with all rules, orders, regulations and requirements of the insurers of the Building and the Project, and Tenant shall, within thirty (30) days after written demand, reimburse Landlord for any additional premium charged for such policy by reason of Tenant's failure to comply with the provisions of this Article.

12.4 Tenant shall keep all doors opening onto public corridors closed, except when in use for ingress and egress.

12.5 No additional locks or bolts of any kind shall be placed upon any of the doors or windows by Tenant, nor shall any changes be made to existing locks or the mechanisms thereof without Landlord's prior written consent. Tenant shall, upon termination of this Lease, return to Landlord all keys to offices and restrooms either furnished to or otherwise procured by Tenant. In the event any key so furnished to Tenant is lost, Tenant shall pay to Landlord the cost of replacing the same or of changing the lock or locks opened by such lost key if Landlord shall deem it necessary to make such change.

12.6 No awnings or other projections shall be attached to any outside wall of the Building. No curtains, blinds, shades or screens shall be attached to or hung in, or used in connection with, any window or door of the Premises other than Landlord's standard window coverings. Neither the interior nor exterior of any windows shall be coated or otherwise sunscreened without Landlord's prior written consent, nor shall any bottles, parcels or other articles be placed on the windowsills or items attached to windows that are visible from outside the Premises. No equipment, furniture or other items of personal property shall be placed on any exterior balcony without Landlord's prior written consent.

12.7 No sign, advertisement or notice ("Signage") shall be exhibited, painted or affixed by Tenant on any part of the Premises visible from outside the Premises or the Building without Landlord's prior written consent. Signage shall conform to Landlord's design criteria established from time to time. For any Signage, Tenant shall, at Tenant's own cost and expense, (a) acquire all permits for such Signage in compliance with Applicable Laws and (b) design, fabricate, install and maintain such Signage in a first-class condition. Tenant shall be responsible for reimbursing Landlord for costs incurred by Landlord in removing any of Tenant's Signage upon the expiration or earlier termination of the Lease. Interior signs on entry doors to the Premises and the directory tablet shall be inscribed, painted or affixed for Tenant by Landlord with the cost of such allocated as follows: (y) one (1) interior sign

on an entry door to the Premises and the interior signs on the directory tablet shall be at Landlord's initial sole cost and expense and (z) any changes to such signage described in Subsection 12.7(y) and any other additional interior signs shall be at Tenant's cost, and any and all interior signs shall be of a size, color and type and be located in a place acceptable to Landlord. The directory tablet shall be provided exclusively for the display of the name and location of tenants only. Tenant shall not place anything on the exterior of the corridor walls or corridor doors other than Landlord's standard lettering. At Landlord's option, Landlord may install any Tenant Signage, and Tenant shall pay all costs associated with such installation within thirty (30) days after demand therefor. Tenant has no right to any signage on the exterior of the Building.

12.8 Tenant may only place equipment within the Premises with floor loading consistent with the Building's structural design unless Tenant obtains Landlord's prior written approval. Tenant may place such equipment only in a location designed to carry the weight of such equipment.

12.9 Tenant shall cause any equipment or machinery to be installed in the Premises so as to reasonably prevent sounds or vibrations therefrom from extending into the Common Area or other offices in the Project.

12.10 Tenant shall not (a) do or permit anything to be done in or about the Premises that shall in any way obstruct or interfere with the rights of other tenants or occupants of the Project, or injure or annoy them, (b) use or allow the Premises to be used for immoral, unlawful or objectionable purposes, as reasonably determined by Landlord, (c) cause, maintain or permit any nuisance or waste in, on or about the Project or (d) take any other action that would in Landlord's reasonable determination in any manner adversely affect other tenants' quiet use and enjoyment of their space or adversely impact their ability to conduct business in a professional and suitable work environment. Notwithstanding any other provision herein to the contrary, Tenant shall be responsible for all liabilities, costs and expenses arising from or in connection with the compliance of the Premises with the Americans with Disabilities Act, 42 U.S.C. § 12101, et seq., and any state and local accessibility laws, codes, ordinances and rules (collectively, and together with regulations promulgated pursuant thereto, the "ADA"), and Tenant shall Indemnify the Landlord Indemnitees from and against any Claims arising from any such failure of the Premises to comply with the ADA; provided, however, that Tenant shall not be responsible for (except to the extent includible as a part of Tenant's Pro Rata Share of Operating Expenses) or have Indemnification obligations with respect to any structural changes to the Premises required to comply with the ADA, unless such changes are required due to or arising from (i) Tenant's specific use of the Premises (as opposed to general office or lab use), (ii) the Tenant Improvements, (iii) Alterations made by or at the request of Tenant, or (iv) a breach by Tenant of any of Tenant's covenants or agreements under this Lease (including, without limitation, use of the Premises in a manner inconsistent with the Permitted Use). If Tenant is responsible for such structural changes as described in the preceding sentence, such structural changes shall be deemed Alterations subject to the terms and conditions of Article 17; provided that, at Landlord's sole discretion, Landlord may elect to complete such structural changes and Tenant shall reimburse Landlord for the costs incurred by Landlord therefor within thirty (30) days of receipt of Landlord's invoice. The Premises have not undergone inspection by a Certified Access Specialist ("CASp," as defined in California Civil Code Section 55.52). Even if not required by California law, the Premises may be inspected by a CASp to determine whether the Premises comply with the ADA, and Landlord may not prohibit a CASp

performing such an inspection. If Tenant requests that such an inspection take place, Landlord and Tenant shall agree on the time and manner of the inspection, as well as which party will pay the cost of the inspection and the cost to remedy any defects identified by the CASp. A Certified Access Specialist can inspect the Premises and determine whether the Premises comply with all of the applicable construction-related accessibility standards under State law. Although State law does not require a Certified Access Specialist inspection of the Premises, Landlord may not prohibit Tenant from obtaining a Certified Access Specialist inspection of the Premises for the occupancy or potential occupancy of Tenant, if requested by Tenant. Landlord and Tenant shall agree on the arrangements for the time and manner of the Certified Access Specialist inspection, the payment of the fee for the Certified Access Specialist inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the Premises. For the avoidance of doubt, "Lenders" shall also include historic tax credit investors and new market tax credit investors. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

13. Rules and Regulations, CC&Rs, Parking Facilities and Common Area.

13.1 Tenant shall have the non-exclusive right, in common with others, to use the Common Area in conjunction with Tenant's use of the Premises for the Permitted Use, and such use of the Common Area and Tenant's use of the Premises shall be subject to the rules and regulations adopted by Landlord and attached hereto as Exhibit F, together with such other reasonable and nondiscriminatory rules and regulations as are hereafter promulgated by Landlord in its sole and absolute discretion (the "Rules and Regulations"). Tenant shall and shall ensure that its contractors, subcontractors, employees, subtenants and invitees faithfully observe and comply with the Rules and Regulations. Landlord shall not be responsible to Tenant for the violation or non-performance by any other tenant or any agent, employee or invitee thereof of any of the Rules and Regulations.

13.2 This Lease is subject to any documents of record, including recorded covenants, conditions or restrictions on the Project or Property, as the same may be amended, amended and restated, supplemented or otherwise modified from time to time (the "CC&Rs") and the Ground Lease. Tenant shall, at its sole cost and expense, comply with and cause the Premises to comply with the CC&Rs, the Ground Lease and the documents listed on Exhibit G attached hereto (the "Property Operations Documents").

13.3 Notwithstanding anything in this Lease to the contrary, Tenant may not install any security systems (including cameras) outside the Premises or that record sounds or images outside the Premises without Landlord's prior written consent, which Landlord may withhold in its sole and absolute discretion.

13.4 During the Term, Tenant shall have a non-exclusive, irrevocable license to use Tenant's Pro Rata Share (i.e., fifty-eight (58) parking spaces) of the parking areas serving the Project in common on an unreserved basis with other tenants of the Project (except that ten (10) of such parking spaces allocated to Tenant shall be reserved in a location in the underground parking facility of the Building reasonably designated by Landlord) during the Term at a total cost of Two Thousand Nine Hundred Twenty-One and 10/100 Dollars ($2,921.10) per month ("Monthly Parking Fee"), and Tenant shall

pay such Monthly Parking Fee simultaneously with payments of Base Rent as Additional Rent. Tenant will not park in any spaces marked as reserved for another tenant or third party. Landlord may, upon written notice to Tenant at any time during the Term, relocate any of Tenant's reserved parking spaces to locations reasonably designated by Landlord. Notwithstanding anything to the contrary contained herein, if Ground Lessor constructs a parking facility to provide parking for the Project, then Landlord may relocate Tenant's parking to such parking facility upon written notice to Tenant, and in such event, the reserved parking spaces above may be converted to unreserved parking spaces. In addition, Landlord may relocate Tenant's parking to other parking facilities serving the Project by providing Tenant with prior written notice of such relocation. The Monthly Parking Fee will not be increased as a result of any relocation, but may be increased after the initial Lease Term based on market conditions. Tenant will observe any rules and regulations established by Landlord or Ground Lessor governing parking.

13.5 Tenant agrees not to unreasonably overburden the parking facilities and agrees to cooperate with Landlord and other tenants in the use of the parking facilities. Landlord reserves the right to determine, in its reasonable discretion, that parking facilities are becoming overcrowded and to limit Tenant's use thereof. Upon such determination, Landlord may reasonably allocate parking spaces among Tenant and other tenants of the Building or the Project. Nothing in this Section, however, is intended to create an affirmative duty on Landlord's part to monitor parking.

14. Project Control by Landlord.

14.1 Landlord reserves full control over the Building and the Project to the extent not inconsistent with Tenant's enjoyment of the Premises as provided by this Lease. This reservation includes Landlord's right to subdivide the Project; convert the Building to condominium units; change the size of the Project by selling or transferring all or a portion of the Project or adding real property and any improvements thereon to the Project; grant easements and licenses to third parties; maintain or establish ownership of the Building separate from fee or leasehold title to the Property; make additions to or reconstruct portions of the Building and the Project; install, use, maintain, repair, replace and relocate for service to the Premises and other parts of the Building or the Project pipes, ducts, conduits, wires and appurtenant fixtures, wherever located in the Premises, the Building or elsewhere at the Project; and alter or relocate any other Common Area or facility, including private drives, lobbies, entrances and landscaping; provided, however, that such rights shall be exercised in a way that does not materially adversely affect Tenant's beneficial use and occupancy of the Premises, including the Permitted Use and Tenant's access to the Premises. Tenant acknowledges that Landlord specifically reserves the right to allow the exclusive use of corridors and restroom facilities located on specific floors to one or more tenants occupying such floors; provided, however, that Tenant shall not be deprived of the use of the corridors reasonably required to serve the Premises or of restroom facilities serving the floor upon which the Premises are located.

14.2 Possession of areas of the Premises necessary for utilities, services, safety and operation of the Building is reserved to Landlord.

14.3 Tenant shall, at Landlord's request, promptly execute such further documents as may be reasonably appropriate to assist Landlord in the performance of its obligations hereunder; provided that Tenant need not execute any document that creates additional liability for Tenant, materially decreases Tenant's rights under this Lease, or that deprives Tenant of the quiet enjoyment and use of the Premises as provided for in this Lease.

14.4 Landlord may, at any and all reasonable times during business hours (or during non-business hours, if (a) with respect to Subsections 14.4(u) through 14.4(y), Tenant so requests, and (b) with respect to Subsection 14.4(z), if Landlord so requests), and upon twenty-four (24) hours' prior notice (which may be oral or by email to the office manager or other Tenant-designated individual at the Premises; but provided that no time restrictions shall apply or advance notice be required if an emergency necessitates immediate entry), enter the Premises to (u) inspect the same and to determine whether Tenant is in compliance with its obligations hereunder (in which case, Landlord may be accompanied by representatives of Ground Lessor), (v) supply any service Landlord is required to provide hereunder, (w) alter, improve or repair any portion of the Building other than the Premises for which access to the Premises is reasonably necessary, (x) post notices of nonresponsibility, (y) access the telephone equipment, electrical substation and fire risers and (z) show the Premises to prospective tenants during the final year of the Term and current and prospective purchasers and lenders at any time, or permit a future tenant of the Premises to inspect and measure the Premises in anticipation of such tenant's future occupancy of the Premises. In connection with any such alteration, improvement or repair as described in Subsection 14.4(w), Landlord may erect in the Premises or elsewhere in the Project scaffolding and other structures reasonably required for the alteration, improvement or repair work to be performed. In no event shall Tenant's Rent abate as a result of Landlord's activities pursuant to this Section; provided, however, that all such activities shall be conducted in such a manner so as to cause as little interference to Tenant as is reasonably possible. Landlord shall at all times retain a key with which to unlock all of the doors in the Premises. If an emergency necessitates immediate access to the Premises, Landlord may use whatever force is necessary to enter the Premises, and any such entry to the Premises shall not constitute a forcible or unlawful entry to the Premises, a detainer of the Premises, or an eviction of Tenant from the Premises or any portion thereof. Except in case of an emergency or in connection with the provision of services performed by Landlord under this Lease, Tenant shall have a reasonable opportunity to have a representative of Tenant accompany Landlord during any entry into the Premises pursuant to this Section; provided, however, if Tenant's representative is not available or does not elect to accompany Landlord at the times that Landlord has requested access, then such unavailability shall not prohibit or otherwise restrict Landlord's access, and Landlord may access the Premises with or without Tenant's representative present.

15. Quiet Enjoyment. Landlord covenants that Tenant, upon paying the Rent and performing its obligations contained in this Lease, may peacefully and quietly have, hold and enjoy the Premises, free from any claim by Landlord or persons claiming under Landlord, but subject to all of the terms and provisions hereof, provisions of Applicable Laws and rights of record to which this Lease is or may become subordinate. This covenant is in lieu of any other quiet enjoyment covenant, either express or implied.

16. Utilities and Services.

16.1 Tenant shall pay for all water (including the cost to service, repair and replace reverse osmosis, de-ionized and other treated water), gas, heat, light, power, telephone, internet service, cable television, other telecommunications and other utilities supplied to the Premises, together with any fees, surcharges and taxes thereon. If any such utility is not separately metered to Tenant, Tenant shall pay Tenant's Adjusted Share of all charges of such utility jointly metered with other premises as Additional Rent or, in the alternative, Landlord may, at its option, monitor the usage of such utilities by Tenant and charge Tenant with the cost of monitoring such metering equipment (and if Landlord reasonably determines that Tenant is using a disproportionately large amount of utilities of the Building, then Landlord may also charge Tenant with the cost of purchasing and installing such metering equipment), which cost shall be paid by Tenant as Additional Rent. Tenant shall maintain temperature and humidity in the Premises in accordance with ASHRAE standards at all times.

16.2 Landlord may base its bills for utilities on reasonable estimates; provided that Landlord adjusts such billings as part of the next Landlord's Statement (or more frequently, as determined by Landlord) to reflect the actual cost of providing utilities to the Premises. To the extent that Tenant uses more than Tenant's Pro Rata Share of any utilities, then Tenant shall pay Landlord for Tenant's Adjusted Share of such utilities to reflect such excess. In the event that the Building or Project is less than fully occupied during a calendar year, Tenant acknowledges that Landlord may extrapolate utility usage that varies depending on the occupancy of the Building or Project (as applicable) to equal Landlord's reasonable estimate of what such utility usage would have been had the Building or Project, as applicable, been ninety-five percent (95%) occupied during such calendar year; provided, however, that Landlord shall not recover more than one hundred percent (100%) of the cost of such utilities. Tenant shall not be liable for the cost of utilities supplied to the Premises attributable to the time period prior to the Term Commencement Date.

16.3 Landlord shall not be liable for, nor shall any eviction of Tenant result from, the failure to furnish any utility or service, whether or not such failure is caused by Force Majeure (as defined below) or, to the extent permitted by Applicable Laws, Landlord's negligence. In the event of such failure, Tenant shall not be entitled to termination of this Lease or any abatement or reduction of Rent, nor shall Tenant be relieved from the operation of any covenant or agreement of this Lease. Notwithstanding anything to the contrary in this Lease, if, for more than seven (7) consecutive business days following written notice to Landlord and as a direct result of Landlord's gross negligence or willful misconduct (and except to the extent that such failure arises from any other factor, including any action or inaction of a Tenant Party (as defined below)), the provision of HVAC or other utilities to all or a material portion of the Premises that Landlord must provide pursuant to this Lease is interrupted (a "Material Services Failure"), then Base Rent and Tenant's Adjusted Share of Operating Expenses (or, to the extent that less than all of the Premises are affected, a proportionate amount (based on the Rentable Area of the Premises that is rendered unusable) of Base Rent and Tenant's Adjusted Share of Operating Expenses) shall thereafter be abated until the Premises are again usable by Tenant for the Permitted Use; provided, however, that, if Landlord is diligently pursuing the restoration of such HVAC and other utilities and Landlord provides substitute HVAC and other utilities reasonably suitable for Tenant's continued use and occupancy of the Premises for the Permitted Use (e.g., supplying potable water or portable air conditioning equipment), then neither Base Rent nor Tenant's Adjusted

Share of Operating Expenses shall be abated. During any Material Services Failure, Tenant will cooperate with Landlord to arrange for the provision of any interrupted utility services on an interim basis via temporary measures until final corrective measures can be accomplished, and Tenant will permit Landlord the necessary access to the Premises to remedy such Material Service Failure. In the event of any interruption of HVAC or other utilities that Landlord must provide pursuant to this Lease, regardless of the cause, Landlord shall diligently pursue the restoration of such HVAC and other utilities. Notwithstanding anything in this Lease to the contrary, but subject to Article 24 (which shall govern in the event of a casualty), the provisions of this Section shall be Tenant's sole recourse and remedy in the event of an interruption of HVAC or other utilities to the Premises, including related to Section 16.8.

16.4 Tenant shall pay for, prior to delinquency of payment therefor, any utilities and services that may be furnished to the Premises during or, if Tenant occupies the Premises after the expiration or earlier termination of the Term, after the Term, beyond those utilities provided by Landlord, including telephone, internet service, cable television and other telecommunications, together with any fees, surcharges and taxes thereon. Following Landlord's written demand, utilities and services provided to the Premises that are separately metered shall be paid by Tenant directly to the supplier of such utilities or services.

16.5 Tenant shall not, without Landlord's prior written consent, use any device in the Premises (including data processing machines) that will in any way (a) increase the amount of ventilation, air exchange, gas, steam, electricity or water required or consumed in the Premises based upon Tenant's Pro Rata Share of the Building or Project (as applicable) beyond the existing capacity of the Building or the Project usually furnished or supplied for the Permitted Use or (b) exceed Tenant's Pro Rata Share of the Building's or Project's (as applicable) capacity to provide such utilities or services.

16.6 If Tenant shall require utilities or services in excess of those usually furnished or supplied for tenants in similar spaces in the Building or the Project by reason of Tenant's equipment or extended hours of business operations, then Tenant shall first procure Landlord's consent for the use thereof, which consent Landlord may condition upon the availability of such excess utilities or services, and Tenant shall pay as Additional Rent an amount equal to the cost of providing such excess utilities and services.

16.7 Landlord shall provide water in the Common Area for lavatory and landscaping purposes only, which water shall be from the local municipal or similar source; provided, however, that if Landlord reasonably determines that Tenant requires, uses or consumes water provided to the Common Area for any purpose other than ordinary lavatory purposes, Landlord may install a water meter ("Tenant Water Meter") and thereby measure Tenant's water consumption for all purposes. Tenant shall pay Landlord for the costs of any Tenant Water Meter and the installation and maintenance thereof during the Term. If Landlord installs a Tenant Water Meter, Tenant shall pay for water consumed, as shown on such meter, as and when bills are rendered. If Tenant fails to timely make such payments, Landlord may pay such charges and collect the same from Tenant. Any such costs or expenses incurred or payments made by Landlord for any of the reasons or purposes stated in this Section shall be deemed to be Additional Rent payable by Tenant and collectible by Landlord as such.

16.8 Landlord reserves the right to stop service of the elevator, plumbing, ventilation, air conditioning and utility systems (a "Service Stoppage"), when Landlord deems necessary or desirable, due to accident, emergency or the need to make repairs, alterations or improvements, until such repairs, alterations or improvements shall have been completed, and, except as provided in Section 16.3, Landlord shall further have no responsibility or liability for failure to supply elevator facilities, plumbing, ventilation, air conditioning or utility service when prevented from doing so by Force Majeure (as defined below) or, to the extent permitted by Applicable Laws, Landlord's negligence. Without limiting the foregoing, it is expressly understood and agreed that any covenants on Landlord's part to furnish any service pursuant to any of the terms, covenants, conditions, provisions or agreements of this Lease, or to perform any act or thing for the benefit of Tenant, shall not be deemed breached if Landlord is unable to furnish or perform the same by virtue of Force Majeure or, to the extent permitted by Applicable Laws, Landlord's negligence. Except in the case of emergencies (in which no notice shall be required), Landlord shall endeavor to provide Tenant with no less than twenty-four (24) hours' notice prior to any planned Service Stoppage (which notice (without limiting other methods permitted by this Lease) may be orally or by email to any Tenant contact for whom Landlord's property management team has contact information).

16.9 Prior to the effectiveness hereof, Landlord installed a back-up 750 kW generator adjacent to the entrance to the underground parking facility (the "Generator") and connected the Generator to the Premises' standby electrical panels. Tenant shall be entitled to use its proportionate share (after deducting any power from the Generator required for the Common Area) of power from the Generator on a non-exclusive basis with other tenants in the Building. The cost of maintaining, repairing and replacing the Generator shall constitute Operating Expenses. Landlord expressly disclaims any warranties with regard to the Generator or the installation thereof, including any warranty of merchantability or fitness for a particular purpose. Landlord shall maintain the Generator and any equipment connecting the Generator to the Premises' standby electrical panels in good working condition, provided, however, that Tenant shall be solely responsible, at Tenant's sole cost and expense, (and Landlord shall not be liable) for maintaining and operating the Premises' standby electrical panels and the distribution of power from the Premises' standby electrical panels throughout the Premises, and provided further, that Landlord shall not be liable for any failure to make any repairs or to perform any maintenance of the Generator that is an obligation of Landlord unless and except to the extent that Landlord willfully fails to make such repairs or to perform such maintenance and such failure persists for an unreasonable time after Tenant provides Landlord with written notice of the need for such repairs or maintenance. Upon receipt of such written notice, Landlord shall promptly commence to cure such failure and shall diligently prosecute the same to completion in accordance with Section 31.13. Tenant shall be solely responsible, at Tenant's sole cost and expense, (and Landlord shall not be liable) for maintaining and operating Tenant's standby electrical panels and the distribution of power from Tenant's standby electrical panels throughout the Premises. The provisions of Section 16.3 shall apply to the Generator.

16.10 For the Premises, Landlord shall (a) subject to Sections 18.1 and 18.2, maintain and operate the HVAC systems used for typical lab and office use only ("Base HVAC") and (b) subject to Subsection 16.10(a), furnish HVAC as reasonably required (except as this Lease otherwise provides) for reasonably comfortable occupancy of the Premises twenty-four (24) hours a day, every day during the Term, subject to casualty, eminent domain or as otherwise specified in this Article. Notwithstanding anything to the contrary in this Section, Landlord shall have no liability, and Tenant shall have no right or remedy, on account of any interruption or impairment in HVAC services.

16.11 For any utilities serving the Premises for which Tenant is billed directly by such utility provider, Tenant agrees to furnish to Landlord, within thirty (30) days after Landlord's request, any invoices or statements for such utilities, authorization to allow Landlord to access Tenant's usage information necessary for Landlord to complete an ENERGY STAR® Statement of Performance (or similar comprehensive utility usage report (e.g., related to Labs 21), if requested by Landlord) and any other information reasonably requested by Landlord; and Tenant shall comply with any other energy usage or consumption requirements required by Applicable Laws. Tenant shall retain records of utility usage at the Premises, including invoices and statements from the utility provider, for at least sixty (60) months, or such other period of time as may be requested by Landlord. Tenant acknowledges that any utility information for the Premises, the Building and the Project may be shared with third parties, including Landlord's consultants and Governmental Authorities. In addition to the foregoing, Tenant shall comply with all Applicable Laws related to the disclosure and tracking of energy consumption at the Premises. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

16.12 As of the Execution Date, Landlord provides an autoclave and glass wash for the non-exclusive use of all Tenants of the Building within a Common Area of the Building (as the same may be modified by Landlord from time to time, the "Common Equipment"). The cost of maintaining, repairing and replacing the Common Equipment shall constitute Operating Expenses. Tenant's use of the Common Equipment will be subject to such rules and regulations as Landlord may designate from time to time, and Section 16.8 and the first two sentences of Section 16.3 above will apply to Landlord's provision of the Common Equipment. Landlord reserves the right to modify or discontinue the Common Equipment provided at any time. Tenant acknowledges that any Common Equipment provided by Landlord is an amenity for tenants of the Building and is provided as a courtesy only. Landlord expressly disclaims any warranties with regard to the Common Equipment or the operation thereof, including any warranty of merchantability or fitness for a particular purpose. Landlord makes no representation or warranty that the Common Equipment is sufficient for Tenant's intended purposes, and Tenant's election to use the Common Equipment is at its sole discretion and risk.

17. Alterations.

17.1 Tenant shall make no alterations, additions or improvements in or to the Premises or engage in any construction, demolition, reconstruction, renovation or other work (whether major or minor) of any kind in, at or serving the Premises ("Alterations") without Landlord's prior written approval, which approval may be subject to the consent of one or more Lenders or the Ground Lessor, if required (and any time periods hereunder will be extended as necessary to allow for review and approval by such parties), but which approval Landlord shall not otherwise unreasonably withhold, condition or delay; provided, however, that, in the event any proposed Alteration affects (a) any structural portions of the Building, including exterior walls, the roof, the foundation or slab, foundation or slab systems (including barriers and subslab systems) or the core of the Building, (b) the exterior of the Building or (c) any Building systems, including elevator, plumbing, HVAC, electrical, security, life safety and power, then Landlord may withhold its approval in its sole and absolute discretion. Tenant shall, in making any Alterations, use only those architects, contractors, suppliers and mechanics of

which Landlord (and Ground Lessor, if required) has given prior written approval, which approval shall be in Landlord's reasonable discretion. In seeking Landlord's approval, Tenant shall provide Landlord, at least sixty (60) days in advance of the desired commencement date of any proposed construction, with digital sets of schematic plans and preliminary specifications showing in reasonable detail, as appropriate, the location, extent, materials, colors, size, system design and elevation of the proposed Alteration as well as bid proposals, certified stamped engineering drawings and calculations by Tenant's engineer of record or architect of record (including connections to the Building's structural system, modifications to the Building's envelope, non-structural penetrations in slabs or walls, and modifications or tie-ins to life safety systems), work contracts, requests for laydown areas and such other information concerning the nature and cost of the Alterations as Landlord may reasonably request (which may include data concerning the environmental impacts of any proposed Alteration if required under Applicable Law, including any California Environmental Quality Act requirements), provided that Tenant shall not commence any such Alterations that require Landlord's or Ground Lessor's consent unless and until Tenant has received the written approval of Landlord, Ground Lessor and any and all Lenders whose consent is required. In no event shall Tenant use or Landlord be required to approve any architects, consultants, contractors, subcontractors or material suppliers that Landlord reasonably believes could cause labor disharmony or may not have sufficient experience, in Landlord's reasonable opinion, to perform work in an occupied Class "A" laboratory research building and in tenant-occupied lab areas. Notwithstanding the foregoing, Tenant may make strictly cosmetic changes to the Premises that do not require any permits or more than three (3) total contractors and subcontractors ("Cosmetic Alterations") without Landlord's consent; provided that (y) the cost of any Cosmetic Alterations does not exceed One Hundred Thousand Dollars ($100,000) annually, (z) such Cosmetic Alterations are not reasonably expected to have any material adverse effect on the Project and do not (i) require any structural or other substantial modifications to the Premises, (ii) require any changes to or adversely affect the Building systems, (iii) affect any portion of the Building or Project that is exterior to the Premises or (iv) trigger any requirement under Applicable Laws that would require Landlord to make any alteration or improvement to the Premises, the Building or the Project.

17.2 Tenant shall not construct or permit to be constructed partitions or other obstructions that might interfere with free access to mechanical installation or service facilities of the Building or with other tenants' components located within the Building, or interfere with the moving of Landlord's equipment to or from the enclosures containing such installations or facilities.

17.3 Tenant shall accomplish any work performed on the Premises or the Building in such a manner as to permit any life safety systems to remain fully operable at all times.

17.4 Any work performed on the Premises, the Building or the Project by Tenant or Tenant's contractors shall be done at such times and in such manner as Landlord may from time to time reasonably designate. Tenant covenants and agrees that all work done by Tenant or Tenant's contractors shall be performed in full compliance with Applicable Laws. Within thirty (30) days after substantial completion of any Alterations, Tenant shall provide Landlord with complete "as built" drawing print sets and electronic CADD files on disc (or files in such other current format in common use as

Landlord reasonably approves or requires) showing any changes in the Premises, as well as, if necessary as reasonably determined by Landlord, a commissioning report prepared by a licensed, qualified commissioning agent hired by Tenant and approved by Landlord for all new or affected mechanical, electrical and plumbing systems. Any such "as built" plans shall show the applicable Alterations as an overlay on the Building as-built plans; provided that Landlord provides the Building "as built" plans to Tenant.

17.5 Before commencing any Alterations, Tenant shall (a) give Landlord at least sixty (60) days' prior written notice of the proposed commencement of such work and the names and addresses of the persons supply labor or materials therefor so that Landlord may enter the Premises to post and keep posted thereon and therein notices or to take any further action that Landlord may reasonably deem proper for the protection of Landlord's interest in the Project and (b) for projects in excess of One Hundred Thousand Dollars ($100,000), if required by Landlord, secure, at Tenant's own cost and expense, a completion and lien indemnity bond satisfactory to Landlord for such work.

17.6 Tenant shall repair any damage to the Premises arising from Tenant's removal of any property from the Premises. During any such restoration period, Tenant shall pay Rent to Landlord as provided herein as if such space were otherwise occupied by Tenant. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

17.7 The Premises plus any Alterations; Signage; Tenant Improvements; attached equipment, decorations, fixtures and trade fixtures; any and all equipment that has been purchased, in whole or in part, with the TI Allowance or for which Tenant has been reimbursed in whole or in part with the TI Allowance; movable laboratory casework and related appliances; and other additions and improvements attached to or built into the Premises made by either of the parties (including all floor and wall coverings; paneling; sinks and related plumbing fixtures; laboratory benches; exterior venting fume hoods; walk-in freezers and refrigerators; ductwork; conduits; electrical panels and circuits; attached machinery and equipment; and built-in furniture and cabinets, in each case, together with all additions and accessories thereto), shall (unless, prior to such construction or installation, Landlord elects otherwise in writing) at all times remain the property of Landlord, shall remain in the Premises and shall (unless, prior to construction or installation thereof, Landlord elects otherwise in writing) be surrendered to Landlord upon the expiration or earlier termination of this Lease. For the avoidance of doubt, the items listed on Exhibit H attached hereto (which Exhibit H may be updated by Tenant from time to time after the Term Commencement Date, subject to Landlord's written consent, which shall not be unreasonably withheld, conditioned or delayed) constitute Tenant's property and shall be removed by Tenant upon the expiration or earlier termination of the Lease. Notwithstanding anything to the contrary contained in this Lease or the Work Letter attached hereto, (a) Tenant shall not be required to remove or restore (or pay for the removal or restoration of) any of the Tenant Improvements made to the Premises pursuant to the Work Letter, and (b) all of Tenant's unattached equipment, fixtures, trade fixtures and other personal property within the Premises which Landlord did not contribute to the cost of shall at all times remain the property of Tenant and may be removed from the Premises by Tenant at any time during the Term (and in accordance with Section 18.2, shall be removed by Tenant upon the expiration or earlier termination of this Lease).

17.8 Notwithstanding any other provision of this Article to the contrary, in no event shall Tenant remove any improvement from the Premises in which any Lender or Ground Lessor has a security interest or as to which Landlord contributed payment, including the Tenant Improvements, without Landlord's prior written consent, which consent Landlord may withhold in its sole and absolute discretion.

17.9 If Tenant shall fail to remove any of its property from the Premises that Tenant is required to remove hereunder prior to the expiration or earlier termination of this Lease, then Landlord may, at its option, remove the same in any manner that Landlord shall choose and store such effects without liability to Tenant for loss thereof or damage thereto, and Tenant shall pay Landlord, upon demand, any costs and expenses incurred due to such removal and storage or Landlord may, at its sole option and without notice to Tenant, sell such property or any portion thereof at private sale and without legal process for such price as Landlord may obtain and apply the proceeds of such sale against any (a) amounts due by Tenant to Landlord under this Lease and (b) any expenses incident to the removal, storage and sale of such personal property.

17.10 Tenant shall pay to Landlord an amount equal to three percent (3%) of the cost to Tenant of all Alterations to cover Landlord's overhead and expenses for plan review, engineering review, coordination, scheduling and supervision thereof or obtaining any required consent from any Lender or the Ground Lessor as well as an amount equal to any fees charged by Ground Lessor in connection with the same, for which Landlord, upon written request from Tenant, shall promptly provide to Tenant any invoice or statement received from Ground Lessor. Amounts due to Landlord as reimbursement for Ground Lessor fees shall be paid as Additional Rent and shall be due and payable within thirty (30) days after invoicing. For purposes of payment of such sum, Tenant shall submit to Landlord copies of all bills, invoices and statements covering the costs of such charges, accompanied by payment to Landlord of the fee set forth in this Section. Tenant shall reimburse Landlord for any extra expenses incurred by Landlord by reason of faulty work done by Tenant or its contractors, or by reason of delays arising from such faulty work, or by reason of inadequate clean-up. Notwithstanding the foregoing, Landlord's supervision fee is included in the cost to construct the Tenant Improvements and Tenant will not be charged an additional separate supervision fee on account of the initial Tenant Improvements (except in connection with any Tenant Changes).

17.11 Within sixty (60) days after final completion of any Alterations performed by Tenant with respect to the Premises, Tenant shall submit to Landlord documentation showing the amounts expended by Tenant with respect to such Alterations, together with supporting documentation reasonably acceptable to Landlord.

17.12 Tenant shall take, and shall cause its contractors to take, commercially reasonable steps to protect the Premises during the performance of any Alterations, including covering or temporarily removing any window coverings so as to guard against dust, debris or damage.

17.13 Tenant shall require its contractors and subcontractors performing work on the Premises to name Landlord, BioMed Realty, L.P., Ground Lessor and their respective officers, employees, directors, representatives, agents, general partners, members, subsidiaries, affiliates and Lenders (collectively with Landlord, the "Landlord Parties") as additional insureds on their respective insurance policies.

17.14 In accordance with Section 14.4, Tenant shall permit representatives of Landlord and Ground Lessor access to the Premises for purposes of inspecting and observing any Alteration, at no cost to Tenant, and shall be available to meet with Landlord and Ground Lessor on a monthly basis to discuss the progress of the Alterations. Tenant shall provide, upon request, copies of any inspection reports issued by any inspection or testing firm with respect to the Alteration (other than those prepared by or for the benefit of Landlord and Ground Lessor directly).

17.15 Tenant shall provide any special inspections or testing required under Applicable Law and shall promptly furnish to Landlord copies of any inspection and/or testing results or reports resulting from such special inspections.

17.16 Upon request, Tenant shall promptly furnish Landlord with copies of any inspection reports issued by any inspection or testing firm with respect to work on the Alteration, other than Landlord's inspections.

17.17 Tenant, at Landlord's request and at Tenant's sole cost and expense, shall promptly correct any material nonconformance of the Alterations with the submittals approved or reviewed by Landlord hereunder or any other requirements of the Lease.

17.18 Tenant shall comply, and shall contractually obligate all contractors who are in contractual privity with Tenant that perform any tenant improvement work in the Premises, including any Alterations, to comply, and to contractually obligate their respective subcontractors to comply, with the terms of California prevailing wage laws. Each of Ground Lessor and Landlord shall be a third party beneficiary of any prevailing wage provisions contained each contract between Tenant and contractors performing work at the Premises.

18. Repairs and Maintenance.

18.1 Landlord shall repair and maintain the structural and exterior portions and Common Area of the Building and the Project, including roofing and covering materials; foundations (excluding any architectural slabs, but including any structural slabs); exterior walls; base Building plumbing; base Building fire sprinkler systems (if any); base Building HVAC systems up to the first damper or isolation valve that serves the Premises (for purposes of clarity, the portion of the HVAC system that includes such first damper or isolation valve and extends into and through the Premises, and any supplemental HVAC exclusively serving the Premises shall not be part of the base Building HVAC and shall be Tenant's obligation to maintain and repair pursuant to Section 18.2 below); elevators; and base Building electrical systems installed or furnished by Landlord.

18.2 Except for services of Landlord, if any, required by Section 18.1, Tenant shall at Tenant's sole cost and expense maintain and keep the Premises (including but not limited to the portion of the HVAC system that includes the first damper or isolation valve and extends into and through the Premises, any supplemental HVAC exclusively serving the Premises, and any other systems or equipment exclusively serving the Premises) and every part thereof in good condition and repair, and within ten (10) business days after receipt of written notice from Landlord, provide to Landlord any maintenance records that Landlord reasonably requests. Tenant shall, upon the expiration or sooner termination of the Term, surrender the Premises to Landlord in as good a condition as when received, ordinary wear and tear excepted; and shall, at Landlord's request and Tenant's sole cost and expense, remove all telephone and data systems, wiring and equipment installed by or on behalf of Tenant from the Premises, and repair any damage to the Premises caused thereby. Landlord shall have no obligation to alter, remodel, improve, repair, decorate or paint the Premises or any part thereof, other than pursuant to the terms and provisions of the Work Letter.

18.3 Subject to Section 16.3 above, Landlord shall not be liable for any failure to make any repairs or to perform any maintenance that is Landlord's obligation pursuant to this Lease unless such failure shall persist for an unreasonable time after Tenant provides Landlord with written notice of the need of such repairs or maintenance. Tenant waives its rights under Applicable Laws now or hereafter in effect to make repairs at Landlord's expense.

18.4 If any excavation shall be made upon land adjacent to or under the Building, or shall be authorized to be made, Tenant shall afford to the person causing or authorized to cause such excavation, license to enter the Premises for the purpose of performing such work as such person shall reasonably deem necessary or desirable to preserve and protect the Building from injury or damage and to support the same by proper foundations, without any claim for damages or liability against Landlord and without reducing or otherwise affecting Tenant's obligations under this Lease. Landlord shall use commercially reasonable efforts to cause such work to be completed in a manner that minimizes interference with Tenant's business operations within the Premises.

18.5 This Article relates to repairs and maintenance arising in the ordinary course of operation of the Building and the Project. In the event of a casualty described in Article 24, Article 24 shall apply in lieu of this Article. In the event of eminent domain, Article 25 shall apply in lieu of this Article.

18.6 Costs incurred by Landlord pursuant to this Article shall be includible in Operating Expenses to the extent permitted in this Lease.

19. Liens.

19.1 Subject to the immediately succeeding sentence, Tenant shall keep the Premises, the Building and the Project free from any liens arising from work or services performed, materials furnished to or obligations incurred by Tenant. Tenant further covenants and agrees that any mechanic's or materialman's lien filed against the Premises, the Building or the Project for work or services claimed to have been done for, or materials claimed to have been furnished to, or obligations incurred by Tenant shall be discharged or bonded by Tenant within ten (10) days after Tenant's actual knowledge of the filing thereof (which may occur by notice to Tenant), at Tenant's sole cost and expense.

19.2 Should Tenant fail to discharge or bond against any lien of the nature described in Section 19.1, Landlord may, at Landlord's election, pay such claim or post a statutory lien bond or otherwise provide security to eliminate the lien as a claim against title, and Tenant shall immediately reimburse Landlord for the costs thereof as Additional Rent. Tenant shall Indemnify the Landlord Indemnitees from and against any Claims arising from any such liens, including any administrative, court or other legal proceedings related to such liens.

19.3 In the event that Tenant leases or finances the acquisition of office equipment, furnishings or other personal property of a removable nature utilized by Tenant in the operation of Tenant's business, Tenant warrants that any Uniform Commercial Code financing statement shall, upon its face or by exhibit thereto, indicate that such financing statement is applicable only to removable personal property of Tenant located within the Premises. In no event shall the address of the Premises, the Building or the Project be furnished on a financing statement without qualifying language as to applicability of the lien only to removable personal property located in an identified suite leased by Tenant. Should any holder of a financing statement record or place of record a financing statement that appears to constitute a lien against any interest of Landlord or against equipment that may be located other than within an identified suite leased by Tenant, Tenant shall, within ten (10) days after filing such financing statement, cause (a) a copy of the lender security agreement or other documents to which the financing statement pertains to be furnished to Landlord to facilitate Landlord's ability to demonstrate that the lien of such financing statement is not applicable to Landlord's interest and (b) Tenant's lender to amend such financing statement and any other documents of record to clarify that any liens imposed thereby are not applicable to any interest of Landlord in the Premises, the Building or the Project.

20. Estoppel Certificate. Tenant shall, within ten (10) business days after receipt of written notice from Landlord, execute, acknowledge and deliver a statement in writing substantially in the form attached to this Lease as Exhibit I, or on any other form reasonably requested by a current or proposed Lender, the Ground Lessor or an encumbrancer or proposed purchaser, (a) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease as so modified is in full force and effect) and the dates to which rental and other charges are paid in advance, if any, (b) acknowledging that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder, or specifying such defaults if any are claimed, and (c) setting forth such further information with respect to this Lease or the Premises as may be requested thereon. Any such statements may be relied upon by any prospective purchaser or encumbrancer of all or any portion of the Property. Tenant's failure to deliver any such statement within such prescribed time shall, at Landlord's option, constitute a Default (as defined below) under this Lease, and, in any event, shall be binding upon Tenant that the Lease is in full force and effect and without modification except as may be represented by Landlord in any certificate prepared by Landlord and delivered to Tenant for execution.

21. Hazardous Materials.

21.1 Tenant shall not cause or permit any Hazardous Materials (as defined below) to be brought upon, kept or used in or about the Premises, the Building or the Project in violation of Applicable Laws or the Mitigation Monitoring and Reporting Program ("MMRP") by Tenant or any of its employees, agents, contractors, customers, guests, licensees or invitees (collectively with Tenant, each a "Tenant Party"). Further, Tenant shall cause and require any Tenant Party to comply with Applicable Law and the MMRP with respect to medical or other scientific experimentation, transportation, storage, handling, use and disposal of any chemical or radioactive or bacteriological or pathological substances or biological organisms or other hazardous wastes or environmentally dangerous substances or materials or medical waste. If (a) Tenant breaches such obligations, (b) the presence of Hazardous Materials as a result of such a breach results in contamination of the Project, any portion thereof, or any adjacent property or otherwise results in a Claim, (c) contamination of the Premises otherwise occurs during the Term or any extension or renewal hereof or holding over hereunder

(other than (i) if such contamination results from migration of Hazardous Materials from outside the Premises not arising from the acts or omissions of a Tenant Party or coming from property owned or leased by a Tenant Party or (ii) to the extent such contamination arises directly from Landlord's gross negligence or willful misconduct) or (d) contamination of the Project occurs as a result of Hazardous Materials that are placed on or under or are released into the Project by a Tenant Party, then Tenant shall Indemnify the Landlord Indemnitees from and against any and all Claims of any kind or nature, including (v) any claim brought by Ground Lessor under the Ground Lease, (w) diminution in value of the Project or any portion thereof, (x) damages for the loss or restriction on use of rentable or usable space or of any amenity of the Project, (y) damages arising from any adverse impact on marketing of space in the Project or any portion thereof and (z) sums paid in settlement of Claims that arise before, during or after the Term as a result of such breach or contamination. This Indemnification by Tenant includes costs incurred in connection with any investigation of site conditions or any clean-up, remedial, removal or restoration work required by any Governmental Authority because of Hazardous Materials present in the air, soil or groundwater above, on, under or about the Project for which Tenant is responsible under the terms of this Section 21.1. Without limiting the foregoing, if the presence of any Hazardous Materials in, on, under or about the Project, any portion thereof or any adjacent property caused or permitted by any Tenant Party results in any contamination of the Project, any portion thereof or any adjacent property, then Tenant shall promptly take all actions at its sole cost and expense as are necessary to return the Project, any portion thereof or any adjacent property to its respective condition existing prior to the time of such contamination and to the satisfaction of governmental agencies with applicable regulatory authority (and in the case of Ground Lessor, to the reasonable satisfaction of Ground Lessor); provided that Landlord's written approval of such action shall first be obtained, which approval Landlord shall not unreasonably withhold; and provided, further, that it shall be reasonable for Landlord to withhold its consent if such actions could have a material adverse long-term or short-term effect on the Project, any portion thereof or any adjacent property. Tenant's obligations under this section may include, but not be limited to, the investigation of environmental conditions, the preparation of feasibility reports or remedial plans, and the performance of any cleanup, remediation, containment, maintenance, monitoring or restoration work, which shall be performed, in each case, in a good, safe and workmanlike manner. Tenant shall use reasonable efforts to cause such actions to be taken in a manner that minimizes any impact on the businesses or operations conducted at the Project. Tenant's obligations under this Section shall not be affected, reduced or limited by any limitation on the amount or type of damages, compensation or benefits payable by or for Tenant under workers' compensation acts, disability benefit acts, employee benefit acts or similar legislation. Notwithstanding the foregoing, Tenant shall have no liability with respect to, and Landlord shall Indemnify the Tenant Parties from and against any and all Claims arising from the presence of, Hazardous Materials at the Project in violation of Applicable Laws as of the Execution Date, unless placed at the Project by a Tenant Party.

21.2 If Tenant fails to comply with its obligations under this Article 21, either of Ground Lessor or Landlord may, but shall not be required to, enter the Premises directly or through its respective agents, consultants or contractors and perform all or any part of the response activity or remedial action which it reasonably deems necessary or advisable to respond to any Hazardous Materials or contamination by Hazardous Materials present on, in, at, under or emanating from, the Premises in violation of Tenant's obligations hereunder and shall be reimbursed for its costs and for any liabilities resulting therefrom. Further, Ground Lessor or Landlord shall be permitted to negotiate, defend, approve and appeal any action taken or order issued by

any governmental agency or authority with regard to any such Hazardous Materials or contamination by Hazardous Materials which results from or arises out of a violation of this Article 21. Tenant shall pay for all costs resulting from or arising out of the presence of any Hazardous Materials on the Premises and/or any real property adjacent to the Premises for which Tenant is responsible under the terms of this Article 21 and any costs and expenses reasonably paid by Landlord or Ground Lessor in the exercise of the rights set forth in this Article 21 shall be payable by Tenant within thirty (30) days after written demand together with interest thereon.

21.3 Landlord acknowledges that it is not the intent of this Article to prohibit Tenant from operating its business for the Permitted Use. In addition, Tenant may operate its business according to the custom of Tenant's industry so long as the use or presence of Hazardous Materials is strictly and properly monitored in accordance with Applicable Laws and the MMRP. As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord (a) a list identifying each type of Hazardous Material to be present at the Premises that is subject to regulation under any environmental Applicable Laws in the form of a Tier II form pursuant to Section 312 of the Emergency Planning and Community Right-to-Know Act of 1986 (or any successor statute) or any other form reasonably requested by Landlord, (b) a list of any and all approvals or permits from Governmental Authorities required in connection with the presence of such Hazardous Material at the Premises and (c) correct and complete copies of (i) notices of violations of Applicable Laws related to Hazardous Materials and (ii) plans relating to the installation of any storage tanks to be installed in, on, under or about the Project (provided that installation of storage tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent Landlord may withhold in its sole and absolute discretion) and closure plans or any other documents required by any and all Governmental Authorities for any storage tanks installed in, on, under or about the Project for the closure of any such storage tanks (collectively, "Hazardous Materials Documents"). Tenant shall deliver to Landlord updated Hazardous Materials Documents on an annual basis and at such other times within fourteen (14) days after receipt of a written request therefor from Landlord, which supplemental delivery shall not be requested more often than once per year, unless (m) there are any changes to the Hazardous Materials Documents or (n) Tenant initiates any Alterations or changes its business, in either case in a way that involves any material increase in the types or amounts of Hazardous Materials, in which case Tenant shall deliver updated Hazardous Materials documents (without Landlord having to request them) before or, if not practicable to do so before, as soon as reasonably practicable after the occurrence of the events in Subsection 21.2(m) or (n). For each type of Hazardous Material listed, the Hazardous Materials Documents shall include (t) the chemical name, (u) the material state (e.g., solid, liquid, gas or cryogen), (v) the concentration, (w) the storage amount and storage condition (e.g., in cabinets or not in cabinets), (x) the use amount and use condition (e.g., open use or closed use), (y) the location (e.g., room number or other identification) and (z) if known, the chemical abstract service number. Notwithstanding anything in this Section to the contrary, Tenant shall not be required to provide Landlord with any documents containing information of a proprietary nature, unless such documents contain a reference to Hazardous Materials or activities related to Hazardous Materials. Landlord may, at Landlord's expense, cause the Hazardous Materials Documents to be reviewed by a person or firm qualified to analyze Hazardous Materials to confirm compliance with the provisions of this Lease and with Applicable Laws. In the event that a review of the Hazardous Materials Documents indicates non-compliance with this Lease or Applicable Laws, Tenant shall, at its expense, diligently take steps to bring its storage and use of Hazardous Materials into compliance and pay for

Landlord's third party review. Notwithstanding anything in this Lease to the contrary or Landlord's review into Tenant's Hazardous Materials Documents or use or disposal of hazardous materials, however, Landlord shall not have and expressly disclaims any liability related to Tenant's or other tenants' use or disposal of Hazardous Materials, it being acknowledged by Tenant that Tenant is best suited to evaluate the safety and efficacy of its Hazardous Materials usage and procedures.

21.4 Tenant represents and warrants to Landlord that it is not nor has it been, in connection with the use, disposal or storage of Hazardous Materials, (a) subject to a material enforcement order issued by any Governmental Authority or (b) required to take any remedial action.

21.5 At any time, and from time to time, prior to the expiration of the Term, Landlord shall have the right to conduct appropriate tests of the Project or any portion thereof to demonstrate that Hazardous Materials are present or that contamination has occurred due to the acts or omissions of a Tenant Party. Tenant shall pay all reasonable costs of such tests if such tests reveal that Hazardous Materials exist at the Project in violation of this Lease. Landlord and Ground Lessor shall have the right to inspect the Premises annually, following reasonable prior notice (at least one (1) business day) to Tenant, for the purposes of reviewing Tenant's or any Tenant Party's handling of Hazardous Materials.

21.6 If underground or other storage tanks storing Hazardous Materials installed or utilized by Tenant are located on the Premises, or are hereafter placed on the Premises by Tenant (or by any other party, if such storage tanks are utilized by Tenant), then Tenant shall monitor the storage tanks, maintain appropriate records, implement reporting procedures, properly close any underground storage tanks, and take or cause to be taken all other steps necessary or required under the Applicable Laws. Tenant shall have no responsibility or liability for underground or other storage tanks installed by anyone other than Tenant unless Tenant utilizes such tanks, in which case Tenant's responsibility for such tanks shall be as set forth in this Section.

21.7 Tenant shall promptly notify Landlord of (i) receipt of any notice, request, demand, inquiry or order, whether oral or written, from any government agency, alleging Tenant's failure to comply with, Applicable Law or (ii) the discovery of any release, discharge, or emission of any Hazardous Materials, or of the existence of any other condition or occurrence, which Tenant knows, or has reason to believe, may constitute or pose a significant present or potential hazard to human health and safety or to the environment, whether or not such event or discovery necessitates any report to any other person or government agency and whether or not such release, discharge or emission is caused by Tenant or any other occupant of the Premises or (iii) any actual or suspected presence of mold or water intrusion at the Premises. Receipt of such notice shall not be deemed to create any obligation on the part of the receiving party (including Tenant) to defend or otherwise respond to any such notification, except to the extent provided for in this Lease. Notwithstanding anything to the contrary herein, Tenant shall reasonably cooperate with Landlord in connection with the reporting of any Hazardous Materials on, in, under, near or emanating from the Premises to any applicable governmental authorities and in connection with seeking any determination of the scope or necessity of clean-up, remediation and/or monitoring of any such Hazardous Materials. In connection with the foregoing, Tenant shall present to Landlord a copy of any written reports or other correspondence which Tenant intends to submit prior to submission thereof to the applicable governmental authority and shall afford Landlord the opportunity to comment upon the content of such report or correspondence and the opportunity to submit such additional information as Landlord deems necessary or appropriate.

21.8 Tenant's obligations under this Article shall survive the expiration or earlier termination of the Lease. During any period of time needed by Tenant or Landlord after the termination of this Lease to complete the removal from the Premises of any Hazardous Materials for which Tenant is responsible under this Lease, Tenant shall be deemed a holdover tenant and subject to the provisions of Article 27.

21.9 As used herein, the term "Hazardous Material" means any toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic or otherwise hazardous substance, material or waste that is or becomes regulated by Applicable Laws or any Governmental Authority, which shall include but in no way be limited to, any material or substance (a) defined as a "hazardous waste," "extremely hazardous waste" or "restricted hazardous waste" under Sections 25115, 25117 or 25122.7, or listed pursuant to Section 25140 of the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control law); (b) defined as a "hazardous substance" under Section 26316 of the California Health and Safety Code, Division 20, Chapter 6.8 (Carpenter-Presley-Tanner Hazardous Substance Account Act); (c) defined as a "hazardous material," "hazardous substance" or "hazardous waste" under Section 25501 of the California Health and Safety Code, Division 20, Chapter 6.95, "Hazardous Substance" under Section 25281 of the California Health and Safety Code, Division 20, Chapter 6.7 (Underground Storage of Hazardous Substances); (d) petroleum; (e) asbestos; (f) polychlorinated byphenyls; (g) listed under Article 9 or defined as "hazardous" or "extremely hazardous" pursuant to Article 11 of Title 22 of the California Code, Division 1, Chapter 20; (h) designated as a "hazardous substance" pursuant to Section 311 of the Clean Water Act, 33 U.S.C. § 1251 et seq. (33 U.S.C. § 1321) or listed pursuant to Section 307 of the Clean Water Act (33 U.S.C. § 6903); (i) defined as a "hazardous substance" pursuant to Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 et seq. (42 U.S.C. § 9602); (j) defined as a "hazardous waste" pursuant to the Resource Conservation and Recovery Act. 42 U.S.C. § 6901 et seq. (42 U.S.C. § 6901); or (k) designated as a "hazardous substance" pursuant to the Toxic Substance Control Act (15 U.S.C. § 2601 et seq.).

21.10 Notwithstanding anything to the contrary in this Lease, Landlord shall have sole control over the equitable allocation of fire control areas (as defined in the Uniform Building Code as adopted by the city or municipality(ies) in which the Project is located (the "UBC")) within the Project for the storage of Hazardous Materials. Notwithstanding anything to the contrary in this Lease, the quantity of Hazardous Materials allowed by this Section is specific to Tenant and shall not run with the Lease in the event of a Transfer (other than an Exempt Transfer) (each as defined in Article 29). In the event of a Transfer, other than an Exempt Transfer, if the use of Hazardous Materials by such new tenant ("New Tenant") is such that New Tenant utilizes fire control areas in the Project in excess of New Tenant's Pro Rata Share of the Building, then New Tenant shall, at its sole cost and expense and upon Landlord's written request, establish and maintain a separate area of the Premises classified by the UBC as an "H" occupancy area for the use and storage of Hazardous Materials, or take such other action as is necessary to ensure that its share of the fire control areas of the Building and the Project is not greater than New Tenant's Pro Rata Share of the Building. Notwithstanding anything in this Lease to the contrary, Landlord shall not have and expressly disclaims any liability related to Tenant's or other tenants' use or disposal of fire control areas, it being acknowledged by Tenant that Tenant and other tenants are best suited to evaluate the safety and efficacy of its Hazardous Materials usage and procedures.

22. Odors and Exhaust. Tenant acknowledges that Landlord would not enter into this Lease with Tenant unless Tenant assured Landlord that under no circumstances will any other occupants of the Building or the Project (including persons legally present in any outdoor areas of the Project) be subjected to odors or fumes (whether or not noxious), and that the Building and the Project will not be damaged by any exhaust, in each case from Tenant's operations. Landlord and Tenant therefore agree as follows:

22.1 Tenant shall not cause or permit (or conduct any activities that would cause) any release of any odors or fumes of any kind from the Premises.

22.2 If the Building has a ventilation system that, in Landlord's judgment, is adequate, suitable, and appropriate to vent the Premises in a manner that does not release odors affecting any indoor or outdoor part of the Project, Tenant shall vent the Premises through such system. If Landlord at any time determines that any existing ventilation system is inadequate, or if no ventilation system exists, Tenant shall in compliance with Applicable Laws vent all fumes and odors from the Premises (and remove odors from Tenant's exhaust stream) as Landlord requires. The placement and configuration of all ventilation exhaust pipes, louvers and other equipment shall be subject to Landlord's approval. Tenant acknowledges Landlord's legitimate desire to maintain the Project (indoor and outdoor areas) in an odor-free manner, and Landlord may require Tenant to abate and remove all odors in a manner that goes beyond the requirements of Applicable Laws.

22.3 Tenant shall, at Tenant's sole cost and expense, provide odor eliminators and other devices (such as filters, air cleaners, scrubbers and whatever other equipment may in Landlord's reasonable judgment be necessary or appropriate from time to time) to remove, eliminate and abate any odors, fumes or other substances in Tenant's exhaust stream that emanate from Tenant's Premises. Any work Tenant performs under this Section shall constitute Alterations.

22.4 Tenant's responsibility to remove, eliminate and abate odors, fumes and exhaust shall continue throughout the Term. Landlord's construction of the Tenant Improvements shall not preclude Landlord from requiring additional measures to eliminate odors, fumes and other adverse impacts of Tenant's exhaust stream (as Landlord may designate in Landlord's reasonable discretion). Tenant shall install additional equipment as Landlord requires from time to time under the preceding sentence. Such installations shall constitute Alterations.

22.5 If Tenant fails to install satisfactory odor control equipment within ten (10) business days after Landlord's demand made at any time, then Landlord may, without limiting Landlord's other rights and remedies, require Tenant to cease and suspend any operations in the Premises that, in Landlord's reasonable determination, cause odors, fumes or exhaust. For example, if Landlord determines that Tenant's production of a certain type of product causes odors, fumes or exhaust, and Tenant does not install satisfactory odor control equipment within ten (10) business days after Landlord's request, then Landlord may require Tenant to stop producing such type of product in the Premises unless and until Tenant has installed odor control equipment reasonably satisfactory to Landlord.

23. Insurance.

23.1 Landlord shall maintain insurance for the Building and the Project in amounts equal to full replacement cost (exclusive of the costs of excavation, foundations and footings, engineering costs or such other costs to the extent the same are not incurred in the event of a rebuild and without reference to depreciation taken by Landlord upon its books or tax returns) or such lesser coverage as Landlord may elect, provided that such coverage shall not be less than the amount of such insurance the Ground Lessor and Landlord's Lender, if any, requires Landlord to maintain, providing protection against any peril generally included within the classification "Fire and Extended Coverage," together with insurance against sprinkler damage (if applicable), vandalism and malicious mischief. Landlord, subject to availability thereof, shall further insure, if Landlord deems it appropriate, coverage against flood, environmental hazard, earthquake, loss or failure of building equipment, rental loss during the period of repairs or rebuilding, Workers' Compensation insurance and fidelity bonds for employees employed to perform services. Notwithstanding the foregoing, Landlord may, but shall not be deemed required to, provide insurance for any improvements installed by Tenant or that are in addition to the standard improvements customarily furnished by Landlord, without regard to whether or not such are made a part of or are affixed to the Building.

23.2 In addition, Landlord shall carry Commercial General Liability insurance with limits of not less than One Million Dollars ($1,000,000) per occurrence/general aggregate for bodily injury (including death), or property damage with respect to the Project.

23.3 Tenant shall, at its own cost and expense, procure and maintain during the Term the following insurance for the benefit of Tenant and Landlord (as their interests may appear) with insurers financially acceptable and lawfully authorized to do business in the state where the Premises are located:

(a) Commercial General Liability insurance on a broad-based occurrence coverage form, with coverages including but not limited to bodily injury (including death), property damage (including loss of use resulting therefrom), premises/operations, personal & advertising injury, and contractual liability with limits of liability of not less than Two Million Dollars ($2,000,000) for bodily injury, property damage, product/completed operations, and personal and advertising injury per occurrence, Four Million Dollars ($4,000,000) general aggregate, which limits may be met by use of excess and/or umbrella liability insurance; provided that such coverage is at least as broad as the primary coverages required herein. Coverage shall include Damage to Rented Premises limit of not less than One Hundred Thousand Dollars ($100,000) per occurrence. Deductible or self-insurance retention amount shall not exceed Twenty-Five Thousand Dollars ($25,000).

(b) Commercial Automobile Liability insurance covering liability arising from the use or operation of any auto on behalf of Tenant or invited by Tenant (including those owned, hired, rented, leased, borrowed, scheduled or non-owned). Coverage shall be on a broad-based occurrence form in an amount not less than One Million Dollars ($1,000,000) combined single limit per accident for bodily injury and property damage, which limits may be met by use of excess and/or umbrella liability insurance; provided that such coverage is at least as broad as the primary coverages required herein.

(c) Commercial Property insurance covering property damage to the full replacement cost value and business interruption. Covered property shall include all tenant improvements in the Premises (to the extent not insured by Landlord pursuant to Section 23.1) and Tenant's Property including personal property, furniture, fixtures, machinery, equipment, stock, inventory and improvements and betterments, which may be owned by Tenant or Landlord and required to be insured hereunder, or which may be leased, rented, borrowed or in the care custody or control of Tenant, or Tenant's agents, employees or subcontractors. Such insurance, with respect only to all Tenant Improvements, Alterations or other work performed on the Premises by Tenant (collectively, "Tenant Work"), shall name Landlord and Landlord's current and future mortgagees as loss payees as their interests may appear. Such insurance shall be written on an "all risk" of physical loss or damage basis including the perils of fire, extended coverage, electrical injury, mechanical breakdown, windstorm, vandalism, malicious mischief, sprinkler leakage, back-up of sewers or drains, flood, earthquake, terrorism and such other risks Landlord may from time to time designate, for the full replacement cost value of the covered items with an agreed amount endorsement with no co-insurance. Business interruption coverage shall have limits sufficient to cover Tenant's lost profits and necessary continuing expenses, including rents due Landlord under the Lease. The minimum period of indemnity for business interruption coverage shall be twenty-four (24) months.

(d) Workers' Compensation in compliance with all Applicable Laws or as may be available on a voluntary basis. Employer's Liability must be at least in the amount of $1,000,000 for bodily injury by accident for each employee, $1,000,000 for bodily injury by disease for each employee, and $1,000,000 bodily injury by disease for policy limit.

(e) Medical malpractice insurance at limits of not less than $1,000,000 each claim during such periods, if any, that Tenant engages in the practice of medicine or clinical trials involving human beings at the Premises.

(f) Pollution Legal Liability insurance will not be required as of the Execution Date. If Tenant changes its Hazardous Materials use from the level (including type and/or quantity) represented to Landlord as of the Execution Date or Tenant stores, handles, generates or treats Hazardous Materials of a type or quantity which justifies pollution legal liability insurance, in either case as determined solely by Landlord, then Landlord will notify Tenant and Tenant will procure such coverage within thirty (30) days after receipt of such notice. Such coverage shall include bodily injury, sickness, disease, death or mental anguish or shock sustained by any person; property damage including physical injury to or destruction of tangible property including the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically injured or destroyed; and defense costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages. Coverage shall apply to both sudden and non-sudden pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water. Claims-made coverage is permitted, provided the policy retroactive date is continuously maintained prior to the commencement date of this agreement, and coverage is continuously maintained during all periods in which Tenant occupies the Premises. Coverage shall be maintained with limits of not less than $2,000,000 per incident with a $4,000,000 policy aggregate and for a period of two (2) years thereafter.

(g) During all construction by Tenant at the Premises, with respect to tenant improvements being constructed (including any Alterations), insurance required in Exhibit B-1 must be in place.

23.4 The insurance required of Tenant by this Article shall be with companies at all times having a current rating of not less than A- and financial category rating of at least Class VII in "A.M. Best's Insurance Guide" current edition. Tenant shall obtain for Landlord from the insurance companies/broker or cause the insurance companies/broker to furnish certificates of insurance evidencing all coverages required herein to Landlord. Landlord reserves the right to require complete, certified copies of all required insurance policies including any endorsements. No such policy shall be cancelable or subject to reduction of coverage or other modification or cancellation except after thirty (30) days' prior written notice to Landlord from Tenant or its insurers (except in the event of non-payment of premium, in which case ten (10) days' written notice shall be given). All such policies shall be written as primary policies, not contributing with and not in excess of the coverage that Landlord may carry. Tenant's required policies shall contain severability of interests clauses stating that, except with respect to limits of insurance, coverage shall apply separately to each insured or additional insured. Tenant shall, on the date of expiration of such policies, furnish Landlord with renewal certificates of insurance or binders. Tenant agrees that if Tenant does not take out and maintain such insurance, Landlord may (but shall not be required to) procure such insurance on Tenant's behalf and at its cost to be paid by Tenant as Additional Rent. Commercial General Liability, Commercial Automobile Liability, Umbrella Liability and Pollution Legal Liability insurance as required above shall name the Landlord Parties as additional insureds as respects liability arising from work or operations performed by or on behalf of Tenant, Tenant's use or occupancy of Premises, and ownership, maintenance or use of vehicles by or on behalf of Tenant. Tenant must disclose any self-insurance, including self-insurance retentions, to Landlord in writing in advance, which shall be subject to Landlord's prior written approval in its sole discretion. If Tenant self-insures with Landlord's prior written approval, Tenant is itself acting as though it were providing the insurance required under the provisions of this Lease, and Tenant shall pay those amounts due in lieu of insurance proceeds that would have been covered and payable if the insurance policies had been carried for such self-insured coverages, which amounts shall be treated as insurance proceeds for all purposes under this Lease.

23.5 In each instance where insurance is to name the Landlord Parties as additional insureds, Tenant shall, upon Landlord's written request, also designate and furnish certificates evidencing the Landlord Parties as additional insureds to (a) any Lender of Landlord holding a security interest in the Building or the Project, (b) the landlord under any lease whereunder Landlord is a tenant of the real property upon which the Building is located if the interest of Landlord is or shall become that of a tenant under a ground lease rather than that of a fee owner and (c) any management company retained by Landlord to manage the Project.

23.6 Tenant assumes the risk of damage to any fixtures, goods, inventory, merchandise, equipment and leasehold improvements, and Landlord shall not be liable for injury to Tenant's business or any loss of income therefrom, relative to such damage, all as more particularly set forth within this Lease. Tenant shall, at Tenant's sole cost and expense, carry such insurance as Tenant desires for Tenant's protection with respect to personal property of Tenant or business interruption.

23.7 Tenant, on behalf of itself and its insurers, hereby waives any and all rights of recovery against the Landlord Parties with respect to any loss, damage, claims, suits or demands, howsoever caused, that are covered, or should have been covered, by valid and collectible workers' compensation, employer's liability insurance and other liability insurance required to obtained and carried by Tenant pursuant to this Article, including any deductibles or self-insurance maintained thereunder. Tenant agrees to endorse the required workers' compensation, employer's liability and other liability insurance policies to permit waivers of subrogation as required hereunder and hold harmless and indemnify the Landlord Parties for any loss or expense incurred as a result of a failure to obtain such waivers of subrogation from insurers. Such waivers shall continue so long as Tenant's insurers so permit. Any termination of such a waiver shall be by written notice to Landlord, containing a description of the circumstances hereinafter set forth in this Section. Tenant, upon obtaining the policies of workers' compensation, employer's liability and other liability insurance required or permitted under this Lease, shall give notice to its insurance carriers that the foregoing waiver of subrogation is contained in this Lease. If such policies shall not be obtainable with such waiver or shall be so obtainable only at a premium over that chargeable without such waiver, then Tenant shall notify Landlord of such conditions.

23.8 All insurance required to be carried by Tenant pursuant to this Lease shall be non-contributing with any insurance carried by any additional insured under said policies.

23.9 Landlord may require insurance policy limits required under this Lease to be raised to conform with requirements of Ground Lessor or Landlord's Lender or to bring coverage limits to levels then being required of new tenants within the Project.

23.10 In addition to other insurance required by this Lease to be carried by Tenant, if Tenant sells, merchandises, transfers, gives away or exchanges alcoholic beverages in, upon or from any part of the Premises, then Tenant shall, at Tenant's sole cost and expense, purchase and maintain in full force and effect during the Term liquor liability insurance in form and substance satisfactory to Landlord, with total limits of liability for bodily injury, loss of means of support and property damage for each occurrence in an amount and with a carrier reasonably acceptable to Landlord, and otherwise in compliance with the general provisions of this Article governing the provision of insurance by Tenant. Such policy shall name the Landlord Parties as additional insureds against any liability by virtue of Applicable Laws concerning the use, sale or giving away of alcoholic beverages. If at any time such insurance is for any reason not in force, then during all and any such times no selling, merchandising, transferring, giving away or exchanging of alcoholic beverages shall be conducted by Tenant in, upon or from any part of the Premises.

23.11 Any costs incurred by Landlord pursuant to this Article shall constitute a portion of Operating Expenses.

23.12 The provisions of this Article shall survive the expiration or earlier termination of this Lease.

24. Damage or Destruction.

24.1 In the event of a partial destruction of (a) the Premises, (b) the Building, (c) the Common Area or (d) the Project ((a)-(d) collectively, the "Affected Areas") by fire or other perils covered by extended coverage insurance not exceeding twenty-five percent (25%) of the full insurable value thereof, and provided that (v) the damage thereto is such that the Affected Areas may be repaired, reconstructed or restored within a period of six (6) months from the date of the happening of such casualty, (w) Landlord shall receive insurance proceeds from its insurer or Lender sufficient to cover the cost of such repairs, reconstruction and restoration (except for any deductible amount provided by Landlord's policy, which deductible amount, if paid by Landlord, shall constitute an Operating Expense), (x) the repair, reconstruction or restoration of the Affected Areas is permitted by all applicable Loan Documents or otherwise consented to by any and all Lenders whose consent is required thereunder or consented to by Ground Lessor, (y) the Ground Lease is not terminated as a result of such casualty, and (z) such casualty was not intentionally caused by a Tenant Party, then Landlord shall commence and proceed diligently with the work of repair, reconstruction and restoration of the Affected Areas and this Lease shall continue in full force and effect.

24.2 In the event of any damage to or destruction of the Building or the Project other than as described in Section 24.1, Landlord may elect to repair, reconstruct and restore the Building or the Project, as applicable, in which case this Lease shall continue in full force and effect. If Landlord elects not to repair, reconstruct and restore the Building or the Project, as applicable, then this Lease shall terminate as of the date of such damage or destruction. In the event of any damage or destruction (regardless of whether such damage is governed by Section 24.1 or this Section), if (a) in Landlord's determination as set forth in the Damage Repair Estimate (as defined below), the Affected Areas cannot be repaired, reconstructed or restored within twelve (12) months after the date of the Damage Repair Estimate, (b) subject to Section 24.6, the Affected Areas are not actually repaired, reconstructed and restored within eighteen (18) months after the date of the Damage Repair Estimate, or (c) the damage and destruction occurs within the last twelve (12) months of the then-current Term, then Tenant shall have the right to terminate this Lease, effective as of the date of such damage or destruction, by delivering to Landlord its written notice of termination (a "Termination Notice") (y) with respect to Subsections 24.2(a) and (c), no later than fifteen (15) days after Landlord delivers to Tenant Landlord's Damage Repair Estimate and (z) with respect to Subsection 24.2(b), no later than fifteen (15) days after such eighteen (18) month period (as the same may be extended pursuant to Section 24.6) expires. If Tenant provides Landlord with a Termination Notice pursuant to Subsection 24.2(z), Landlord shall have an additional thirty (30) days after receipt of such Termination Notice to complete the repair, reconstruction and restoration. If Landlord does not complete such repair, reconstruction and restoration within such thirty (30) day period, then Tenant may terminate this Lease by giving Landlord written notice within two (2) business days after the expiration of such thirty (30) day period. If Landlord does complete such repair, reconstruction and restoration within such thirty (30) day period, then this Lease shall continue in full force and effect.

24.3 As soon as reasonably practicable, but in any event within sixty (60) days following the date of damage or destruction, Landlord shall notify Tenant of Landlord's good faith estimate of the period of time in which the repairs, reconstruction and restoration will be completed (the "Damage Repair Estimate"), which estimate shall be based upon the opinion of a contractor reasonably selected by Landlord and experienced in comparable repair, reconstruction and restoration of similar buildings. Additionally, Landlord shall give written notice to Tenant within sixty (60) days following the date of damage or destruction of its election not to repair, reconstruct or restore the Building or the Project, as applicable.

24.4 Upon any termination of this Lease under any of the provisions of this Article, the parties shall be released thereby without further obligation to the other from the date possession of the Premises is surrendered to Landlord, except with regard to (a) items occurring prior to the damage or destruction and (b) provisions of this Lease that, by their express terms, survive the expiration or earlier termination hereof.

24.5 In the event of repair, reconstruction and restoration as provided in this Article, all Rent to be paid by Tenant under this Lease shall be abated proportionately based on the extent to which Tenant's use of the Premises is impaired during the period commencing on the date of the damage or destruction and continuing until the completion of such repair, reconstruction or restoration, unless Landlord provides Tenant with other space during the period of repair, reconstruction and restoration that, in Tenant's reasonable opinion, is suitable for the temporary conduct of Tenant's business; provided, however, that the amount of such abatement shall be reduced by the amount of Rent that is received by Tenant as part of the business interruption or loss of rental income with respect to the Premises from the proceeds of business interruption or loss of rental income insurance.

24.6 Notwithstanding anything to the contrary contained in this Article, (a) Landlord shall not be required to repair, reconstruct or restore any damage or destruction to the extent that Landlord is prohibited from doing so by the Ground Lease or any applicable Loan Document or because Ground Lessor or any Lender whose consent is required withholds its consent, and (b) should Landlord be delayed or prevented from completing the repair, reconstruction or restoration of the damage or destruction to the Premises after the occurrence of such damage or destruction by Force Majeure (as defined below) or delays caused by a Lender or Tenant Party, then the time for Landlord to commence or complete repairs, reconstruction and restoration shall be extended on a day-for-day basis; provided, however, that, at Landlord's election, Landlord shall be relieved of its obligation to make such repairs, reconstruction and restoration.

24.7 If Landlord is obligated to or elects to repair, reconstruct or restore as herein provided, then Landlord shall be obligated to make such repairs, reconstruction or restoration only with regard to (a) those portions of the Premises that were originally provided at Landlord's expense and (b) the Common Area portion of the Affected Areas. The repairs, reconstruction or restoration of improvements not originally provided by Landlord or at Landlord's expense shall be the obligation of Tenant. In the event Tenant has elected to upgrade certain improvements from the Building Standard, Landlord shall, upon the need for replacement due to an insured loss, provide only the Building Standard, unless Tenant again elects to upgrade such improvements and pay any incremental costs related thereto, except to the extent that excess insurance proceeds, if received, are adequate to provide such upgrades, in addition to providing for basic repairs, reconstruction and restoration of the Premises, the Building and the Project.

24.8 Notwithstanding anything to the contrary contained in this Article, Landlord shall not have any obligation whatsoever to repair, reconstruct or restore the Premises if the damage resulting from any casualty covered under this Article occurs (a) during the thirteenth (13th) through the twenty-fourth (24th) months prior to the expiration of the Term and the Damage Repair Estimate indicates that more than six (6) months will be required for such repair, reconstruction or restoration, (b) during the last twelve (12) months of the Term or (c) to the extent that insurance proceeds are not available therefor.

24.9 Landlord's obligation, should it elect or be obligated to repair, reconstruct or restore, shall be limited to the Affected Areas, and shall be conditioned upon Landlord receiving any permits or authorizations required by Applicable Laws or the Ground Lease. Tenant shall, at its expense, replace or fully repair all of Tenant's personal property and any Alterations installed by Tenant existing at the time of such damage or destruction. If Affected Areas are to be repaired, reconstructed or restored in accordance with the foregoing, Landlord shall make available to Tenant any portion of insurance proceeds it receives that are allocable to the Alterations constructed by Tenant pursuant to this Lease; provided Tenant is not then in default under this Lease, and subject to the requirements of the Ground Lessor and any Lender of Landlord.

24.10 This Article sets forth the terms and conditions upon which this Lease may terminate in the event of any damage or destruction. Accordingly, the parties hereby waive the provisions of California Civil Code Sections 1932(2) and 1933(4) (and any successor statutes) permitting the parties to terminate this Lease as a result of any damage or destruction.

25. Eminent Domain.

25.1 In the event (a) the whole of all Affected Areas or (b) such part thereof as shall substantially interfere with Tenant's use and occupancy of the Premises for the Permitted Use shall be taken for any public or quasi-public purpose by any lawful power or authority by exercise of the right of appropriation, condemnation or eminent domain, or sold to prevent such taking, Tenant or Landlord may terminate this Lease effective as of the date possession is required to be surrendered to such authority, except with regard to (y) items occurring prior to the taking and (z) provisions of this Lease that, by their express terms, survive the expiration or earlier termination hereof.

25.2 In the event of a partial taking of (a) the Building or the Project or (b) drives, walkways or parking areas serving the Building or the Project for any public or quasi-public purpose by any lawful power or authority by exercise of right of appropriation, condemnation, or eminent domain, or sold to prevent such taking, then, without regard to whether any portion of the Premises occupied by Tenant was so taken, Landlord may elect to terminate this Lease (except with regard to (a) items occurring prior to the taking and (b) provisions of this Lease that, by their express terms, survive the expiration or earlier termination hereof) as of such taking if such taking is, in Landlord's sole opinion, of a material nature such as to make it uneconomical to continue use of the unappropriated portion for purposes of renting office or laboratory space.

25.3 To the extent permitted under all applicable Loan Documents and the Ground Lease or otherwise consented to by any and all Lenders whose consent is required and the Ground Lessor, Tenant shall be entitled to any award that is specifically awarded as compensation for (a) the taking of Tenant's personal property that was purchased and installed at Tenant's expense and (b) the costs of Tenant moving to a new location. Except as set forth in the previous sentence, any award for such taking shall be the property of Landlord.

25.4 If, upon any taking of the nature described in this Article, this Lease continues in effect, then Landlord shall promptly proceed to restore the Affected Areas to substantially their same condition prior to such partial taking. To the extent such restoration is infeasible, as determined by Landlord in its sole and absolute discretion, the Rent shall be decreased proportionately to reflect the loss of any portion of the Premises no longer available to Tenant. Notwithstanding anything to the contrary contained in this Article, Landlord shall not be required to restore the Affected Areas to the extent that (a) Landlord is prohibited from doing so by any applicable Loan Document or the Ground Lease or (b) the Ground Lessor or any Lender whose consent is required withholds its consent.

25.5 This Article sets forth the terms and conditions upon which this Lease may terminate in the event of any taking. Accordingly, the parties hereby waive the provisions of California Code of Civil Procedure Section 1265.130 (and any successor statutes) permitting the parties to terminate this Lease as a result of any taking.

26. Surrender.

26.1 At least thirty (30) days prior to Tenant's surrender of possession of any part of the Premises, Tenant shall provide Landlord with a facility decommissioning and Hazardous Materials closure plan for the Premises ("Exit Survey") prepared by an independent third party state-certified professional with appropriate expertise, which Exit Survey must be reasonably acceptable to Landlord. The Exit Survey shall comply with the American National Standards Institute's Laboratory Decommissioning guidelines (ANSI/AIHA Z9.11-2008) or any successor standards published by ANSI or any successor organization (or, if ANSI and its successors no longer exist, a similar entity publishing similar standards). In addition, at least five (5) days prior to Tenant's surrender of possession of any part of the Premises, Tenant shall (a) provide Landlord with written evidence of all appropriate governmental releases obtained by Tenant in accordance with Applicable Laws, including laws pertaining to the surrender of the Premises, (b) place Laboratory Equipment Decontamination Forms on all decommissioned equipment to assure safe occupancy by future users and (c) conduct a site inspection with Landlord. In addition, Tenant agrees to remain responsible after the surrender of the Premises for the remediation of any recognized environmental conditions set forth in the Exit Survey and comply with any recommendations set forth in the Exit Survey. Tenant's obligations under this Section shall survive the expiration or earlier termination of the Lease.

26.2 No surrender of possession of any part of the Premises shall release Tenant from any of its obligations hereunder, unless such surrender is accepted in writing by Landlord.

26.3 The voluntary or other surrender of this Lease by Tenant shall not effect a merger with Landlord's leasehold or other interest in the Premises, the Building, the Property or the Project, unless Landlord consents in writing, and shall, at Landlord's option, operate as an assignment to Landlord of any or all subleases.

26.4 The voluntary or other surrender of any ground or other underlying lease that now exists or may hereafter be executed affecting the Building or the Project, or a mutual cancellation thereof or of Landlord's interest therein by Landlord and its lessor shall not effect a merger with Landlord's leasehold or other interest in the Premises, the Building or the Property and shall, at the option of the successor to Landlord's interest in the Building or the Project, as applicable, operate as an assignment of this Lease.

27. Holding Over.

27.1 If, with Landlord's prior written consent, Tenant holds possession of all or any part of the Premises after the Term, Tenant shall become a tenant from month to month after the expiration or earlier termination of the Term, and in such case Tenant shall continue to pay (a) Base Rent in accordance with Article 7, as adjusted in accordance with Article 8, and (b) any amounts for which Tenant would otherwise be liable under this Lease if the Lease were still in effect, including payments for Tenant's Adjusted Share of Operating Expenses, and all other Additional Rent. Any such month-to-month tenancy shall be subject to every other term, covenant and agreement contained herein.

27.2 Notwithstanding the foregoing, if Tenant remains in possession of the Premises after the expiration or earlier termination of the Term without Landlord's prior written consent, (a) Tenant shall become a tenant at sufferance subject to the terms and conditions of this Lease, except that the monthly rent shall be equal to one hundred fifty percent (150%) of the Rent in effect during the last thirty (30) days of the Term, and (b) Tenant shall be liable to Landlord for any and all damages suffered by Landlord as a result of such holdover, including any lost rent or consequential, special and indirect damages (in each case, regardless of whether such damages are foreseeable).

27.3 Acceptance by Landlord of Rent after the expiration or earlier termination of the Term shall not result in an extension, renewal or reinstatement of this Lease.

27.4 The foregoing provisions of this Article are in addition to and do not affect Landlord's right of reentry or any other rights of Landlord hereunder or as otherwise provided by Applicable Laws.

27.5 The provisions of this Article shall survive the expiration or earlier termination of this Lease.

28. Indemnification and Exculpation.

28.1 Tenant agrees to Indemnify the Landlord Indemnitees from and against any and all Claims of any kind or nature, real or alleged, arising from (a) injury to or death of any person or damage to any property occurring within or about the Premises, the Building, the Property or the Project, arising directly or indirectly out of (i) the presence at or use or occupancy of the Premises or Project by a Tenant Party or (ii) an act or omission on the part of any Tenant Party, (b) a breach or default by Tenant in the performance of any of its obligations hereunder (including any Claim asserted by a Lender

against any Landlord Indemnitees under any Loan Document or by Ground Lessor under the Ground Lease as a direct result of such breach or default by Tenant) or (c) injury to or death of persons or damage to or loss of any property, real or alleged, arising from the serving of alcoholic beverages at the Premises or Project by Tenant or any Tenant Party (including, without limitation, any person or entity hired by Tenant or any Tenant Party to serve alcoholic beverages), including liability under any dram shop law, host liquor law or similar Applicable Law, except to the extent arising directly from Landlord's negligence or willful misconduct. Tenant's obligations under this Section shall not be affected, reduced or limited by any limitation on the amount or type of damages, compensation or benefits payable by or for Tenant under workers' compensation acts, disability benefit acts, employee benefit acts or similar legislation. Tenant's obligations under this Section shall survive the expiration or earlier termination of this Lease.

28.2 Notwithstanding anything in this Lease to the contrary, Landlord shall not be liable to Tenant for and Tenant assumes all risk of (a) damage or losses arising from fire, electrical malfunction, gas explosion or water damage of any type (including broken water lines, malfunctioning fire sprinkler systems, roof leaks or stoppages of lines), unless any such loss is due to Landlord's willful disregard of written notice by Tenant of need for a repair that Landlord is responsible to make for an unreasonable period of time, and (b) damage to personal property; products manufactured, produced or stored by Tenant; or scientific research, including loss of records kept by Tenant within the Premises (in each case, regardless of whether such damages are foreseeable). Tenant further waives any claim for injury to Tenant's business or loss of income relating to any such damage or destruction of personal property; products manufactured, produced or stored by Tenant; or scientific research as described in this Section. Notwithstanding anything in the foregoing or this Lease to the contrary, except (x) as otherwise provided herein (including Section 27.2), (y) as may be provided by Applicable Laws or (z) in the event of Tenant's breach of Article 21 or Section 26.1, in no event shall Landlord or Tenant be liable to the other for any consequential, special or indirect damages arising from this Lease, including lost profits (provided that this Subsection 28.2(z) shall not limit Tenant's liability for Base Rent or Additional Rent pursuant to this Lease).

28.3 Landlord shall not be liable for any damages arising from any act, omission or neglect of any other tenant in the Building or the Project, or of any other third party.

28.4 Tenant acknowledges that security devices and services, if any, while intended to deter crime, may not in given instances prevent theft or other criminal acts. Landlord shall not be liable for injuries or losses arising from criminal acts of third parties, and Tenant assumes the risk that any security device or service may malfunction or otherwise be circumvented by a criminal, or that Landlord may decide (in its sole and absolute discretion) not to monitor any installed security devices. If Tenant desires protection against such criminal acts, then Tenant shall, at Tenant's sole cost and expense, obtain appropriate insurance coverage. Tenant's security programs and equipment for the Premises shall be coordinated with Landlord and subject to Landlord's reasonable approval.

28.5 The provisions of this Article shall survive the expiration or earlier termination of this Lease.

29. Assignment or Subletting.

29.1 Except as hereinafter expressly permitted, none of the following (each, a "Transfer"), either voluntarily or by operation of Applicable Laws, shall be directly or indirectly performed without Landlord's prior written consent (which shall not be unreasonably withheld, conditioned or delayed): (a) Tenant selling, hypothecating, assigning, pledging, encumbering or otherwise transferring its interest in this Lease or subletting all or a portion of the Premises, (b) a controlling interest in Tenant being sold, assigned or otherwise transferred (other than as a result of shares in Tenant being sold on a public stock exchange (including, without limitation, in connection with an initial public offering)) or (c) the sale of all or substantially of Tenant's assets. For purposes of the preceding sentence, "control" means (f) owning (directly or indirectly) more than fifty percent (50%) of the stock or other equity interests of another person or (g) possessing, directly or indirectly, the power to direct or cause the direction of the management and policies of such person. Notwithstanding the foregoing, Tenant shall have the right to Transfer, without Landlord's prior written consent, Tenant's interest in this Lease or the Premises or any part thereof to any person that (m) acquires all or substantially all of the assets of Tenant, (n) is a successor to Tenant by merger, consolidation or reorganization, or (o) as of the date of determination and at all times thereafter directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with Tenant (any person described in (m), (n), or (o), a "Tenant's Affiliate"); provided that Tenant shall notify Landlord in writing at least thirty (30) days prior to the effectiveness of such Transfer (subject to Landlord's confidentiality obligations under Article 38) to Tenant's Affiliate (an "Exempt Transfer") and otherwise comply with the requirements of this Lease regarding such Transfer; and provided, further, that the person that will be the tenant under this Lease after the Exempt Transfer has a net worth (as of both the day immediately prior to and the day immediately after the Exempt Transfer) that is equal to or greater than the net worth (as of both the Execution Date and the date of the Exempt Transfer) of the transferring Tenant and is approved by Ground Lessor if such approval is required pursuant to the Ground Lease. For purposes of the immediately preceding sentence, "control" requires both (m) owning (directly or indirectly) more than fifty percent (50%) of the stock or other equity interests of another person and (n) possessing, directly or indirectly, the power to direct or cause the direction of the management and policies of such person. In no event shall Tenant perform a Transfer to or with an entity that is a tenant at the Project or that is in discussions or negotiations with Landlord, Ground Lessor, or an affiliate of Landlord or Ground Lessor to lease premises at the Project or a property owned by Landlord, Ground Lessor or an affiliate of Landlord or Ground Lessor.

29.2 In the event Tenant desires to effect a Transfer, then, at least thirty (30) days (provided that in the event Ground Lessor consent is required, such period shall be increased to forty-five (45) days) but not more than ninety (90) days prior to the date when Tenant desires the Transfer to be effective (the "Transfer Date"), Tenant shall provide written notice to Landlord (the "Transfer Notice") containing information (including references) concerning the character of the proposed transferee, assignee or sublessee; the Transfer Date; the most recent unconsolidated financial statements of Tenant and of the proposed transferee, assignee or sublessee satisfying the requirements of Section 40.2 ("Required Financials"); any ownership or commercial relationship between Tenant and the proposed transferee, assignee or sublessee; copies of Hazardous Materials Documents for the proposed transferee, assignee or sublessee; and the consideration and all other material terms and conditions of the proposed Transfer, all in such detail as Landlord shall reasonably require. Tenant shall supplement any consent request with any documentation reasonably required by Ground Lessor pursuant to the Ground Lease or any Lender pursuant to any Loan Documents in connection with such Transfer request; provided that Landlord shall promptly inform Tenant of any such documentation required by Ground Lessor or any Lender (if not already provided directly to Tenant from Ground Lessor or any Lender).

29.3 Landlord, in determining whether consent should be given to a proposed Transfer, may give consideration to such factors as Landlord reasonably deems material, including (a) the financial strength of Tenant and of such transferee, assignee or sublessee (notwithstanding Tenant remaining liable for Tenant's performance), (b) any change in use that such transferee, assignee or sublessee proposes to make in the use of the Premises and (c) Landlord's desire to exercise its rights under Section 29.7 to recapture the Premises. In no event shall Landlord be deemed to be unreasonable for declining to consent to a Transfer if any applicable Loan Document or the Ground Lease prohibits such assignment or the Ground Lessor or any Lender whose consent is required thereunder withholds its consent, or if the Transfer is to a transferee, assignee or sublessee of poor reputation, lacking financial qualifications or seeking a change in the Permitted Use, or jeopardizing directly or indirectly the status of Landlord or any of Landlord's affiliates as a Real Estate Investment Trust under the Internal Revenue Code of 1986 (as the same may be amended from time to time, the "Revenue Code"). Notwithstanding anything contained in this Lease to the contrary, (w) no Transfer shall be consummated on any basis such that the rental or other amounts to be paid by the occupant, assignee, manager or other transferee thereunder would be based, in whole or in part, on the income or profits derived by the business activities of such occupant, assignee, manager or other transferee; (x) Tenant shall not furnish or render any services to an occupant, assignee, manager or other transferee with respect to whom transfer consideration is required to be paid, or manage or operate the Premises or any capital additions so transferred, with respect to which transfer consideration is being paid; (y) Tenant shall not consummate a Transfer with any person in which Landlord owns an interest, directly or indirectly (by applying constructive ownership rules set forth in Section 856(d)(5) of the Revenue Code); and (z) Tenant shall not consummate a Transfer with any person or in any manner that could cause any portion of the amounts received by Landlord pursuant to this Lease or any sublease, license or other arrangement for the right to use, occupy or possess any portion of the Premises to fail to qualify as "rents from real property" within the meaning of Section 856(d) of the Revenue Code, or any similar or successor provision thereto or which could cause any other income of Landlord to fail to qualify as income described in Section 856(c)(2) of the Revenue Code. Notwithstanding anything in this Lease to the contrary, if (a) Tenant or any proposed transferee, assignee or sublessee of Tenant has been required by any prior landlord, Lender, Ground Lessor or Governmental Authority to take material remedial action in connection with Hazardous Materials contaminating a property if the contamination resulted from such party's action or omission or use of the property in question or (b) Tenant or any proposed transferee, assignee or sublessee is subject to a material enforcement order issued by any Governmental Authority in connection with the use, disposal or storage of Hazardous Materials, then Landlord shall have the right to terminate this Lease in Landlord's sole and absolute discretion (with respect to any such matter involving Tenant), and it shall not be unreasonable for Landlord to withhold its consent to any proposed transfer, assignment or subletting (with respect to any such matter involving a proposed transferee, assignee or sublessee).

29.4 The following are conditions precedent to a Transfer or to Landlord considering a request by Tenant to a Transfer:

(a) Tenant shall remain fully liable under this Lease. Tenant agrees that it shall not be (and shall not be deemed to be) a guarantor or surety of this Lease, however, and waives its right to claim that is it is a guarantor or surety or to raise in any legal proceeding any guarantor or surety defenses permitted by this Lease or by Applicable Laws;

(b) If Tenant or the proposed transferee, assignee or sublessee does not or cannot deliver the Required Financials, then Landlord may elect to have either Tenant's ultimate parent company or the proposed transferee's, assignee's or sublessee's ultimate parent company provide a guaranty of the applicable entity's obligations under this Lease, in a form acceptable to Landlord, which guaranty shall be executed and delivered to Landlord by the applicable guarantor prior to the Transfer Date;

(c) In the case of an Exempt Transfer, Tenant shall provide Landlord with evidence reasonably satisfactory to Landlord that the Transfer qualifies as an Exempt Transfer;

(d) Tenant shall provide Landlord with evidence reasonably satisfactory to Landlord that the value of Landlord's interest under this Lease shall not be diminished or reduced by the proposed Transfer. Such evidence shall include evidence respecting the relevant business experience and financial responsibility and status of the proposed transferee, assignee or sublessee;

(e) Tenant shall reimburse Landlord for Landlord's actual costs and expenses, including reasonable attorneys' fees, charges and disbursements incurred in connection with the review, processing and documentation of such request, not to exceed Two Thousand Five Hundred and 00/100 Dollars ($2,500.00) per request;

(f) Except with respect to an Exempt Transfer, if Tenant's transfer of rights or sharing of the Premises provides for the receipt by, on behalf of or on account of Tenant of any consideration of any kind whatsoever (including a premium rental for a sublease or lump sum payment for an assignment, but excluding Tenant's reasonable costs in marketing and subleasing the Premises) in excess of the rental and other charges due to Landlord under this Lease, Tenant shall (unless Landlord directs in writing otherwise) pay fifty percent (50%) of all of such excess to Landlord, after making deductions for any reasonable marketing expenses, tenant improvement funds expended by Tenant, alterations, cash concessions, brokerage commissions, attorneys' fees and free rent actually paid by Tenant. If such consideration consists of cash paid to Tenant, payment to Landlord shall be made upon receipt by Tenant of such cash payment;

(g) The proposed transferee, assignee or sublessee shall agree that, in the event Landlord gives such proposed transferee, assignee or sublessee notice that Tenant is in Default under this Lease, such proposed transferee, assignee or sublessee shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments shall be received by Landlord without any liability being incurred by Landlord, except to credit such payment against those due by Tenant under this Lease, and any such proposed transferee, assignee or sublessee shall agree to attorn to Landlord or its successors and assigns should this Lease be terminated for any reason; provided, however, that in no event shall Ground Lessor, Landlord or its Lenders, successors or assigns be obligated to accept such attornment;

(h) Landlord's consent to any such Transfer shall be effected on Landlord's forms;

(i) Tenant shall not then be in default hereunder in any respect;

(j) Such proposed transferee, assignee or sublessee's use of the Premises shall be the same as the Permitted Use;

(k) Landlord shall not be bound by any provision of any agreement pertaining to the Transfer, except for Landlord's written consent to the same;

(l) Tenant shall pay all transfer and other taxes (including interest and penalties) assessed or payable for any Transfer;

(m) Landlord's consent (or waiver of its rights) for any Transfer shall not waive Landlord's right to consent or refuse consent to any later Transfer;

(n) Tenant shall deliver to Landlord one executed copy of any and all written instruments evidencing or relating to the Transfer; and

(o) Tenant shall deliver to Landlord a list of Hazardous Materials (as defined below), certified by the proposed transferee, assignee or sublessee to be true and correct, that the proposed transferee, assignee or sublessee intends to use or store in the Premises. Additionally, Tenant shall deliver to Landlord, on or before the date any proposed transferee, assignee or sublessee takes occupancy of the Premises, all of the items relating to Hazardous Materials of such proposed transferee, assignee or sublessee as described in Section 21.2.

29.5 Any Transfer that is not in compliance with the provisions of this Article or with respect to which Tenant does not fulfill its obligations pursuant to this Article shall (a) constitute a Default, (b) be voidable by Landlord and (c), at Landlord's option, terminate this Lease, except for those provisions that, by their express terms, survive the expiration or earlier termination hereof.

29.6 Notwithstanding any Transfer, Tenant shall remain fully and primarily liable for the payment of all Rent and other sums due or to become due hereunder, and for the full performance of all other terms, conditions and covenants to be kept and performed by Tenant. The acceptance of Rent or any other sum due hereunder, or the acceptance of performance of any other term, covenant or condition thereof, from any person or entity other than Tenant shall not be deemed a waiver of any of the provisions of this Lease or a consent to any Transfer.

29.7 If Tenant delivers to Landlord a Transfer Notice which would result in a transfer of more than fifty percent (50%) of the Premises (calculated in the aggregate with all prior transfers) to a proposed transferee, assignee or sublessee, then Landlord shall have the option, exercisable by giving notice to Tenant at any time within forty-five (45) days after Landlord's receipt of such Transfer Notice, to terminate this Lease as of the date specified in the Transfer Notice as the Transfer Date, except for those provisions that, by their express terms, survive the expiration or earlier termination hereof. If Landlord exercises such option, then Tenant shall have the right to withdraw such Transfer Notice by delivering to Landlord written notice of such election within five (5) business days after Landlord's delivery of notice electing to exercise Landlord's option to terminate this Lease. In the event Tenant withdraws the Transfer Notice as provided in this Section, this Lease shall continue in full force and effect. No failure of Landlord to exercise its option to terminate this Lease shall be deemed to be Landlord's consent to a proposed Transfer.

29.8 If Tenant sublets the Premises or any portion thereof, Tenant hereby immediately and irrevocably assigns to Landlord, as security for Tenant's obligations under this Lease, all rent from any such subletting, and appoints Landlord as assignee and attorney-in-fact, for Tenant, and Landlord (or a receiver for Tenant appointed on Landlord's application) may collect such rent and apply it toward Tenant's obligations under this Lease; provided that, until the occurrence of a Default (as defined below) by Tenant, Tenant shall have the right to collect such rent.

29.9 In the event that Tenant enters into a sublease for the entire Premises in accordance with this Article that expires within two (2) days of the Term Expiration Date, the term expiration date of such sublease shall, notwithstanding anything in this Lease, the sublease or any consent to the sublease to the contrary, be deemed to be the date that is two (2) days prior to the Term Expiration Date.

30. Subordination and Attornment.

30.1 This Lease shall be subject and subordinate to the lien of any mortgage, deed of trust, or lease (including the Ground Lease) in which Landlord is tenant now or hereafter in force against the Building or the Project and to all advances made or hereafter to be made upon the security thereof without the necessity of the execution and delivery of any further instruments on the part of Tenant to effectuate such subordination. Upon Tenant's written request, Landlord shall use commercially reasonable efforts to request a subordination and non-disturbance agreement from any future mortgagee or beneficiary under a deed of trust recorded on the Project (each, a "Mortgagee"); provided, however, that (a) Landlord shall have no obligation to obtain such subordination and non-disturbance agreement (and Tenant shall have no right or remedy in the event that such Mortgagee refuses to provide such subordination and non-disturbance agreement), and (b) Tenant shall (i) pay all fees and expenses of any kind (including, without limitation, attorneys' fees) imposed or required by such Mortgagee in connection with such subordination and non-disturbance agreement, and (ii) reimburse Landlord for Landlord's actual costs and expenses, including reasonable attorneys' fees, charges and disbursements incurred in connection with the review, processing and documentation of such subordination and non-disturbance agreement.

30.2 Notwithstanding the foregoing, Tenant shall execute and deliver upon demand such further instrument or instruments evidencing such subordination of this Lease to the lien of any such mortgage or mortgages or deeds of trust or lease in which Landlord is tenant as may be reasonably required by Landlord. If any Lender so elects, however, Tenant's leasehold shall be deemed prior to any such lease, mortgage, or deed of trust upon or including the Premises regardless of date and Tenant shall execute a statement in writing to such effect at Landlord's request. If Tenant fails to execute any document required from Tenant under this Section within ten (10) business days after written request therefor, Tenant hereby constitutes and appoints Landlord or its special attorney-in-fact to execute and deliver any such document or documents in the name of Tenant. Such power is coupled with an interest and is irrevocable. Tenant waives, and shall execute such documents as shall be required to evidence such waiver, all rights and benefits to any relocation benefit or assistance arising in connection with any termination of the Ground Lease for any reason. For the avoidance of doubt, "Lenders" shall also include historic tax credit investors and new market tax credit investors.

30.3 Upon written request of Landlord and opportunity for Tenant to review, Tenant agrees to execute any Lease amendments not materially altering the terms of this Lease, if required by a Lender incident to the financing of the real property of which the Premises constitute a part.

30.4 In the event any proceedings are brought for foreclosure, or in the event of the exercise of the power of sale under any mortgage or deed of trust made by Landlord covering the Premises, Tenant shall at the election of the purchaser at such foreclosure or sale attorn to the purchaser upon any such foreclosure or sale and recognize such purchaser as Landlord under this Lease.

31. Defaults and Remedies.

31.1 Late payment by Tenant to Landlord of Rent and other sums due shall cause Landlord to incur costs not contemplated by this Lease, the exact amount of which shall be extremely difficult and impracticable to ascertain. Such costs include processing and accounting charges and late charges that may be imposed on Landlord by the terms of any mortgage or trust deed covering the Premises. Therefore, if any installment of Rent due from Tenant is not received by Landlord within three (3) days after the date such payment is due, Tenant shall pay to Landlord (a) an additional sum of five percent (5%) of the overdue Rent as a late charge plus (b) interest at an annual rate (the "Default Rate") equal to the lesser of (a) twelve percent (12%) and (b) the highest rate permitted by Applicable Laws. The parties agree that this late charge represents a fair and reasonable estimate of the costs that Landlord shall incur by reason of late payment by Tenant and shall be payable as Additional Rent to Landlord due with the next installment of Rent or within five (5) business days after Landlord's demand, whichever is earlier. Landlord's acceptance of any Additional Rent (including a late charge or any other amount hereunder) shall not be deemed an extension of the date that Rent is due or prevent Landlord from pursuing any other rights or remedies under this Lease, at law or in equity.

31.2 No payment by Tenant or receipt by Landlord of a lesser amount than the Rent payment herein stipulated shall be deemed to be other than on account of the Rent, nor shall any endorsement or statement on any check or any letter accompanying any check or payment as Rent be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or pursue any other remedy provided in this Lease or in equity or at law. If a dispute shall arise as to any amount or sum of money to be paid by Tenant to Landlord hereunder, Tenant shall have the right to make payment "under protest," such payment shall not be regarded as a voluntary payment, and there shall survive the right on the part of Tenant to institute suit for recovery of the payment paid under protest.

31.3 If Tenant fails to pay any sum of money required to be paid by it hereunder or perform any other act on its part to be performed hereunder, in each case within the applicable cure period (if any) described in Section 31.4, then Landlord may (but shall not be obligated to), without waiving or releasing Tenant from any obligations of Tenant, make such payment or perform such act; provided that such failure by Tenant unreasonably interfered with the use of the Building or the Project by any other tenant or with the efficient operation of the Building or the Project, or resulted or could have resulted in a violation of Applicable Laws or the cancellation of an insurance policy maintained by Landlord. Notwithstanding the foregoing, in the event of an emergency, Landlord shall have the right to enter the Premises and act in accordance with its rights as provided elsewhere in this Lease. In addition to the late charge described in Section 31.1, Tenant shall pay to Landlord as Additional Rent all sums so paid or incurred by Landlord, together with interest at the Default Rate, computed from the date such sums were paid or incurred.

31.4 The occurrence of any one or more of the following events shall constitute a "Default" hereunder by Tenant:

(a) Tenant (i) abandons the Premises or (ii)(A) vacates the Premises and (B) makes a statement, to Landlord or otherwise, that it will not continue to satisfy all or any portion of its obligations under this Lease;

(b) Tenant fails to make any payment of Rent, as and when due, or to satisfy its obligations under Article 19, where such failure shall continue for a period of three (3) days after written notice thereof from Landlord to Tenant;

(c) Tenant fails to observe or perform any obligation or covenant contained herein (other than described in Sections 31.4(a) and 31.4(b)) to be performed by Tenant, where such failure continues for a period of ten (10) business days after written notice thereof from Landlord to Tenant; provided that, if the nature of Tenant's default is such that it reasonably requires more than ten (10) business days to cure, Tenant shall not be deemed to be in Default if Tenant commences such cure within such ten (10) business day period and thereafter diligently prosecutes the same to completion; and provided, further, that such cure is completed no later than forty-five (45) days after Tenant's receipt of written notice from Landlord;

(d) Tenant makes an assignment for the benefit of creditors;

(e) A receiver, trustee or custodian is appointed to or does take title, possession or control of all or substantially all of Tenant's assets;

(f) Tenant files a voluntary petition under the United States Bankruptcy Code or any successor statute (as the same may be amended from time to time, the "Bankruptcy Code") or an order for relief is entered against Tenant pursuant to a voluntary or involuntary proceeding commenced under any chapter of the Bankruptcy Code;

(g) Any involuntary petition is filed against Tenant under any chapter of the Bankruptcy Code and is not dismissed within one hundred twenty (120) days;

(h) A default exists under any other agreement pertaining to the Premises or Project by and between Landlord or any Landlord affiliate and Tenant, after the expiration of any applicable notice and cure periods;

(i) Tenant fails to deliver an estoppel certificate in accordance with Article 20; or

(j) Tenant's interest in this Lease is attached, executed upon or otherwise judicially seized and such action is not released within one hundred twenty (120) days of the action.

Notices given under this Section shall specify the alleged default and shall demand that Tenant perform the provisions of this Lease or pay the Rent that is in arrears, as the case may be, within the applicable period of time, or quit the Premises. No such notice shall be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice.

31.5 In the event of a Chronic Delinquency (as defined below), Landlord may, in addition to all other remedies under this Lease, at law or in equity, require that Tenant thereafter pay Rent quarterly in advance. This provision shall not limit in any way nor be construed as a waiver of Landlord's rights and remedies contained in this Lease, at law or in equity in the event of a default. "Chronic Delinquency" means that Tenant commits a Default pursuant to Section 31.4(b) three (3) times in any twelve (12) month period.

31.6 In the event of a Default by Tenant, and at any time thereafter, with or without notice or demand and without limiting Landlord in the exercise of any right or remedy that Landlord may have, Landlord has the right to do any or all of the following:

(a) Halt any Tenant Improvements and Alterations and order Tenant's contractors, subcontractors, consultants, designers and material suppliers to stop work;

(b) Terminate Tenant's right to possession of the Premises by written notice to Tenant or by any lawful means, in which case Tenant shall immediately surrender possession of the Premises to Landlord. In such event, Landlord shall have the immediate right to re-enter and remove all persons and property, and such property may be removed and stored in a public warehouse or elsewhere at the cost and for the account of Tenant, all without service of notice or resort to legal process and without being deemed guilty of trespass or becoming liable for any loss or damage that may be occasioned thereby; and

(c) Terminate this Lease, in which event Tenant shall immediately surrender possession of the Premises to Landlord. In such event, Landlord shall have the immediate right to re-enter and remove all persons and property, and such property may be removed and stored in a public warehouse or elsewhere at the cost and for the account of Tenant, all without service of notice or resort to legal process and without being deemed guilty of trespass or becoming liable for any loss or damage that may be occasioned thereby. In the event that Landlord shall elect to so terminate this Lease, then Landlord shall be entitled to recover from Tenant all damages incurred by Landlord by reason of Tenant's default, including:

(i) The sum of:

A. The worth at the time of award of any unpaid Rent that had accrued at the time of such termination; plus

B. The worth at the time of award of the amount by which the unpaid Rent that would have accrued during the period commencing with termination of the Lease and ending at the time of award exceeds that portion of the loss of Landlord's rental income from the Premises that Tenant proves could have been reasonably avoided; plus

C. The worth at the time of award of the amount by which the unpaid Rent for the balance of the Term after the time of award exceeds that portion of the loss of Landlord's rental income from the Premises that Tenant proves could have been reasonably avoided; plus

D. Any other amount necessary to compensate Landlord for all the detriment arising from Tenant's failure to perform its obligations under this Lease or that in the ordinary course of things would be likely to result therefrom, including the cost of restoring the Premises to the condition required under the terms of this Lease, including any rent payments not otherwise chargeable to Tenant (e.g., during any "free" rent period or rent holiday); plus

E. At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by Applicable Laws; or

(ii) Intentionally omitted.

As used in Sections 31.6(c)(i)(A) and (B), "worth at the time of award" shall be computed by allowing interest at the Default Rate. As used in Section 31.6(c)(i)(C), the "worth at the time of the award" shall be computed by taking the present value of such amount, using the a discount rate equal to the discount rate of the Federal Reserve Bank of San Francisco at the time of the award plus one percent (1%).

31.7 In addition to any other remedies available to Landlord at law or in equity and under this Lease, Landlord shall have the remedy described in California Civil Code Section 1951.4 and may continue this Lease in effect after Tenant's Default or abandonment and recover Rent as it becomes due, provided Tenant has the right to sublet or assign, subject only to reasonable limitations. In addition, Landlord shall not be liable in any way whatsoever for its failure or refusal to relet the Premises. For purposes of this Section, the following acts by Landlord will not constitute the termination of Tenant's right to possession of the Premises:

(a) Acts of maintenance or preservation or efforts to relet the Premises, including alterations, remodeling, redecorating, repairs, replacements or painting as Landlord shall consider advisable for the purpose of reletting the Premises or any part thereof; or

(b) The appointment of a receiver upon the initiative of Landlord to protect Landlord's interest under this Lease or in the Premises.

Notwithstanding the foregoing, in the event of a Default by Tenant, Landlord may elect at any time to terminate this Lease and to recover damages to which Landlord is entitled.

31.8 If Landlord does not elect to terminate this Lease as provided in Section 31.6, then Landlord may, from time to time, recover all Rent as it becomes due under this Lease. At any time thereafter, Landlord may elect to terminate this Lease and to recover damages to which Landlord is entitled.

31.9 In the event Landlord elects to terminate this Lease and relet the Premises, Landlord may execute any new lease in its own name. Tenant shall have no right or authority whatsoever to collect any Rent from such tenant. The proceeds of any such reletting shall be applied as follows:

(a) First, to the payment of any indebtedness other than Rent due hereunder from Tenant to Landlord, including storage charges or brokerage commissions owing from Tenant to Landlord as the result of such reletting;

(b) Second, to the payment of the costs and expenses of reletting the Premises, including (i) alterations and repairs that Landlord deems reasonably necessary and advisable and

(i) reasonable attorneys' fees, charges and disbursements incurred by Landlord in connection with the retaking of the Premises and such reletting;

(c) Third, to the payment of Rent and other charges due and unpaid hereunder; and

(d) Fourth, to the payment of future Rent and other damages payable by Tenant under this Lease.

31.10 All of Landlord's rights, options and remedies hereunder shall be construed and held to be nonexclusive and cumulative. Landlord shall have the right to pursue any one or all of such remedies, or any other remedy or relief that may be provided by Applicable Laws, whether or not stated in this Lease. No waiver of any default of Tenant hereunder shall be implied from any acceptance by Landlord of any Rent or other payments due hereunder or any omission by Landlord to take any action on account of such default if such default persists or is repeated, and no express waiver shall affect defaults other than as specified in such waiver. Notwithstanding any provision of this Lease to the contrary, in no event shall Landlord be required to mitigate its damages with respect to any default by Tenant, except as required by Applicable Laws. Any such obligation imposed by Applicable Laws upon Landlord to relet the Premises after any termination of this Lease shall be subject to the reasonable requirements of Landlord to (a) lease to high quality tenants on such terms as Landlord may from time to time deem appropriate in its discretion and (b) develop the Project in a harmonious manner with a mix of uses, tenants, floor areas, terms of tenancies, etc., as determined by Landlord. Landlord shall not be obligated to relet the Premises to (y) any affiliate of Tenant or (z) any party (i) unacceptable to a Lender or Ground Lessor, (ii) that requires Landlord to make improvements to or re-demise the Premises, (iii) that desires to change the Permitted Use, (iv) that desires to lease the Premises for more or less than the remaining Term or (v) to whom Landlord or an affiliate of Landlord may desire to lease other available space in the Project or at another property owned by Landlord or an affiliate of Landlord.

31.11 Landlord's termination of (a) this Lease or (b) Tenant's right to possession of the Premises shall not relieve Tenant of any liability to Landlord that has previously accrued or that shall arise based upon events that occurred prior to the later to occur of (y) the date of Lease termination and (z) the date Tenant surrenders possession of the Premises.

31.12 To the extent permitted by Applicable Laws, Tenant waives any and all rights of redemption granted by or under any present or future Applicable Laws if Tenant is evicted or dispossessed for any cause, or if Landlord obtains possession of the Premises due to Tenant's default hereunder or otherwise.

31.13 Landlord shall not be in default or liable for damages under this Lease unless Landlord fails to perform obligations required of Landlord within a reasonable time, but in no event shall such failure continue for more than thirty (30) days after written notice from Tenant specifying the nature of Landlord's failure; provided, however, that if the nature of Landlord's obligation is such that more than thirty (30) days are required for its performance, then Landlord shall not be in default if Landlord commences performance within such thirty (30) day period and thereafter diligently prosecutes the same to completion. In no event shall Tenant have the right to terminate or cancel this Lease or to withhold or abate rent or to set off any Claims against Rent as a result of any default or breach by Landlord of any of its covenants, obligations, representations, warranties or promises hereunder, except as may otherwise be expressly set forth in this Lease.

31.14 In the event of any default by Landlord, Tenant shall give notice by registered or certified mail to any (a) beneficiary of a deed of trust or (b) mortgagee under a mortgage covering the Premises, the Building or the Project and to any landlord of any lease of land upon or within which the Premises, the Building or the Project is located (including the Ground Lessor), and shall offer such beneficiary, mortgagee or landlord a reasonable opportunity to cure the default, including time to obtain possession of the Building or the Project by power of sale or a judicial action if such should prove necessary to effect a cure; provided that Landlord shall furnish to Tenant in writing, upon written request by Tenant, the names and addresses of all such persons who are to receive such notices.

32. Bankruptcy. In the event a debtor, trustee or debtor in possession under the Bankruptcy Code, or another person with similar rights, duties and powers under any other Applicable Laws, proposes to cure any default under this Lease or to assume or assign this Lease and is obliged to provide adequate assurance to Landlord that (a) a default shall be cured, (b) Landlord shall be compensated for its damages arising from any breach of this Lease and (c) future performance of Tenant's obligations under this Lease shall occur, then such adequate assurances shall include any or all of the following, as designated by Landlord in its sole and absolute discretion:

32.1 Those acts specified in the Bankruptcy Code or other Applicable Laws as included within the meaning of "adequate assurance," even if this Lease does not concern a shopping center or other facility described in such Applicable Laws;

32.2 32.2. A prompt cash payment to compensate Landlord for any monetary defaults or actual damages arising directly from a breach of this Lease;

32.3 32.3. A cash deposit in an amount at least equal to the then-current amount of the Security Deposit; or

32.4 The assumption or assignment of all of Tenant's interest and obligations under this Lease.

33. Brokers.

33.1 Tenant represents and warrants that it has had no dealings with any real estate broker or agent in connection with the negotiation of this Lease other than CBRE ("Broker"), and that it knows of no other real estate broker or agent that is or might be entitled to a commission in connection with this Lease. Landlord represents and warrants that it has had no dealings with any real estate broker or agent in connection with the negotiation of this Lease, other than Broker. Landlord shall compensate Broker in relation to this Lease pursuant to a separate agreement between Landlord and Broker.

33.2 Tenant represents and warrants that no broker or agent has made any representation or warranty relied upon by Tenant in Tenant's decision to enter into this Lease, other than as contained in this Lease.

33.3 Tenant acknowledges and agrees that the employment of brokers by Landlord is for the purpose of solicitation of offers of leases from prospective tenants and that no authority is granted to any broker to furnish any representation (written or oral) or warranty from Landlord unless expressly contained within this Lease. Landlord is executing this Lease in reliance upon Tenant's representations, warranties and agreements contained within Sections 33.1 and 33.2.

33.4 Tenant agrees to Indemnify the Landlord Indemnitees from any and all cost or liability for compensation claimed by any broker or agent, other than Broker, employed or engaged by Tenant or claiming to have been employed or engaged by Tenant. Landlord agrees to Indemnify Tenant from any and all cost or liability for compensation claimed by any broker or agent employed or engaged by Landlord or claiming to have been employed or engaged by Landlord in connection with this Lease.

34. Definition of Landlord. With regard to obligations imposed upon Landlord pursuant to this Lease, the term "Landlord," as used in this Lease, shall refer only to Landlord or Landlord's then-current successor-in-interest. In the event of any transfer, assignment or conveyance of Landlord's interest in this Lease or in Landlord's leasehold or other interest in the Property, as applicable, Landlord herein named (and in case of any subsequent transfers or conveyances, the subsequent Landlord) shall be automatically freed and relieved, from and after the date of such transfer, assignment or conveyance, from all liability for the performance of any covenants or obligations contained in this Lease thereafter to be performed by Landlord and, without further agreement, the transferee, assignee or conveyee of Landlord's in this Lease or in Landlord's fee title to or leasehold interest in the Property, as applicable, shall be deemed to have assumed and agreed to observe and perform any and all covenants and obligations of Landlord hereunder during the tenure of its interest in the Lease or the Property. Landlord or any subsequent Landlord may transfer its interest in the Premises or this Lease without Tenant's consent.

35. Limitation of Landlord's Liability.

35.1 If Landlord is in default under this Lease and, as a consequence, Tenant recovers a monetary judgment against Landlord, the judgment shall be satisfied only out of (a) the proceeds of sale received on execution of the judgment and levy against the right, title and interest of Landlord in the Building and the Project, (b) rent or other income from such real property receivable by Landlord or (c) the consideration received by Landlord from the sale, financing, refinancing or other disposition of all or any part of Landlord's right, title or interest in the Building or the Project.

35.2 Neither Landlord nor any of its affiliates, nor any of their respective partners, shareholders, directors, officers, employees, members or agents shall be personally liable for Landlord's obligations or any deficiency under this Lease, and service of process shall not be made against any shareholder, director, officer, employee or agent of Landlord or any of Landlord's affiliates. No partner, shareholder, director, officer, employee, member or agent of Landlord or any of its affiliates shall be sued or named as a party in any suit or action, and service of process shall not be made against any partner or member of Landlord except as may be necessary to secure jurisdiction of the partnership, joint venture or limited liability company, as applicable. No partner, shareholder, director, officer, employee, member or agent of Landlord or any of its affiliates shall be required to answer or otherwise plead to any service of process, and no judgment shall be taken or writ of execution levied against any partner, shareholder, director, officer, employee, member or agent of Landlord or any of its affiliates.

35.3 Each of the covenants and agreements of this Article shall be applicable to any covenant or agreement either expressly contained in this Lease or imposed by Applicable Laws and shall survive the expiration or earlier termination of this Lease.

36. Joint and Several Obligations. If more than one person or entity executes this Lease as Tenant, then:

36.1 Each of them is jointly and severally liable for the keeping, observing and performing of all of the terms, covenants, conditions, provisions and agreements of this Lease to be kept, observed or performed by Tenant, and such terms, covenants, conditions, provisions and agreements shall be binding with the same force and effect upon each and all of the persons executing this Agreement as Tenant; and

36.2 The term "Tenant," as used in this Lease, means and includes each of them, jointly and severally. The act of, notice from, notice to, refund to, or signature of any one or more of them with respect to the tenancy under this Lease, including any renewal, extension, expiration, termination or modification of this Lease, shall be binding upon each and all of the persons executing this Lease as Tenant with the same force and effect as if each and all of them had so acted, so given or received such notice or refund, or so signed.

37. Representations. Tenant guarantees, warrants and represents that (a) Tenant is duly incorporated or otherwise established or formed and validly existing under the laws of its state of incorporation, establishment or formation, (b) Tenant has and is duly qualified to do business in the state in which the Property is located, (c) Tenant has full corporate, partnership, trust, association or other appropriate power and authority to enter into this Lease and to perform all Tenant's obligations hereunder, (d) each person (and all of the persons if more than one signs) signing this Lease on behalf of Tenant is duly and validly authorized to do so and (e) neither (i) the execution, delivery or performance of this Lease nor (ii) the consummation of the transactions contemplated hereby will violate or conflict with any provision of documents or instruments under which Tenant is constituted or to which Tenant is a party. In addition, Tenant guarantees, warrants and represents that none of (x) it, (y) its affiliates or partners nor (z) to the best of its knowledge, its members, shareholders or other equity owners or any of their respective employees, officers, directors, representatives or agents is a person or entity with whom U.S. persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism) or other similar governmental action.

38. Confidentiality. Tenant shall keep the terms and conditions of this Lease and any information provided to Tenant or its employees, agents or contractors pursuant to Article 9 confidential and shall not (a) disclose to any third party any terms or conditions of this Lease or any other Lease-related document (including subleases, assignments, work letters, construction contracts, letters of credit, subordination agreements, non-disturbance agreements, brokerage agreements or estoppels) or the contents of any documents, reports, surveys or evaluations related to the Project or any portion thereof or (b) provide to any third party an original or copy of this Lease (or any Lease-related document or other document referenced in Subsection 38(a)). Landlord shall not release to any third party (specifically excluding Ground Lessor) any non-public financial information or non-public information about Tenant's ownership structure that Tenant gives Landlord. Notwithstanding the foregoing, confidential information under this Section may be released by Landlord or Tenant under the following circumstances: (w) if required by Applicable Laws or in any judicial proceeding; provided that the releasing party has given the other party reasonable notice of such requirement, if feasible, (x) to a party's attorneys, accountants, brokers, lenders, potential lenders, investors, potential investors and other bona fide consultants or advisers (with respect to this Lease only); provided such third parties agree to be bound by this Section, (y) to a party's lenders for purposes of financial reporting or (z) to bona fide prospective assignees or subtenants of this Lease; provided they agree in writing to be bound by this Section.

39. Notices. Except as otherwise stated in this Lease, any notice, consent, demand, invoice, statement or other communication required or permitted to be given hereunder shall be in writing and shall be given by (a) personal delivery, (b) overnight delivery with a reputable international overnight delivery service, such as FedEx, or (c) email transmission, so long as such transmission is followed within one (1) business day by delivery utilizing one of the methods described in Subsection 39(a) or (b), provided that, for purposes of this Subsection 39(c), if delivery utilizing one of the other methods described in Subsection 39(a) or (b) is not reasonably practicable due to an event of Force Majeure (as defined below), then such requirement shall be waived for deliveries by email transmission so long as either the receiving party responds to the sending party confirming receipt of the applicable email transmission, or the sending party receives other electronic confirmation that the email transmission was received and read by the receiving party, such as a "read receipt" notice. Any such notice, consent, demand, invoice, statement or other communication shall be deemed delivered (x) upon receipt, if given in accordance with Subsection 39(a); (y) one (1) business day after deposit with a reputable international overnight delivery service, if given in accordance with Subsection 39(b); or (z) upon transmission, if given in accordance with Subsection 39(c). Except as otherwise stated in this Lease, any notice, consent, demand, invoice, statement or other communication required or permitted to be given pursuant to this Lease shall be addressed to Tenant at the Premises, or to Landlord or Tenant at the addresses shown in Sections 2.9 and 2.10 or 2.11, respectively. Either party may, by notice to the other given pursuant to this Section, specify additional or different addresses for notice purposes.

40. Miscellaneous.

40.1 Landlord reserves the right to change the name or address of the Building or the Project in its sole discretion. Tenant shall not have or acquire any property right or interest in the name "The University of California," "The Regents," "UCSD," or any permutation thereof which may imply any connection of Tenant or the Premises with the University of California. Tenant shall not use of any logos and/or images associated with the University of California and specifically UCSD.

40.2 To induce Landlord to enter into this Lease, Tenant agrees that it shall furnish to Landlord, from time to time (but no more than twice per calendar year (except in connection with an actual or potential sale or refinancing of all or any portion of the Project or if Tenant is in Default hereunder, for which, in any such case, no such limitation shall apply)), within ten (10) business days after receipt of Landlord's written request, the most recent year-end unconsolidated financial statements reflecting Tenant's current financial condition audited by a nationally recognized accounting firm. Tenant shall, within ninety (90) days after the end of Tenant's financial year, furnish Landlord with a certified copy of Tenant's year-end unconsolidated financial statements for the previous year audited by a nationally recognized accounting firm. Tenant represents and warrants that all financial statements, records and information furnished by Tenant to Landlord in connection with this Lease are true, correct and complete in all respects. If audited financials are not otherwise prepared, unaudited financials complying with generally accepted accounting principles and certified by the chief financial officer of Tenant as true, correct and complete in all respects shall suffice for purposes of this Section. If Tenant fails to deliver to Landlord any financial statement within the time period required under this Section, then Tenant shall be required to pay to Landlord an administrative fee equal to Five Dollars ($500) within five (5) business days after receiving written notice from Landlord advising Tenant of such failure (provided, however, that Landlord's acceptance of such fee shall not prevent Landlord from pursuing any other rights or remedies under this Lease, at law or in equity). The provisions of this Section shall not apply at any time while Tenant is a corporation whose shares are traded on any nationally recognized stock exchange.

40.3 Submission of this instrument for examination or signature by Tenant does not constitute a reservation of or option for a lease, and shall not be effective as a lease or otherwise until execution by and delivery to both Landlord and Tenant.

40.4 The terms of this Lease are intended by the parties as a final, complete and exclusive expression of their agreement with respect to the terms that are included herein, and may not be contradicted or supplemented by evidence of any other prior or contemporaneous agreement.

40.5 Landlord may, but shall not be obligated to, record a short form or memorandum hereof without Tenant's consent. Within ten (10) days after receipt of written request from Landlord, Tenant shall execute a termination of any short form or memorandum of lease recorded with respect hereto. Tenant shall be responsible for the cost of recording any short form or memorandum of this Lease, including any transfer or other taxes incurred in connection with such recordation. Neither party shall record this Lease. Tenant shall not record a memorandum of this Lease.

40.6 Where applicable in this Lease, the singular includes the plural and the masculine or neuter includes the masculine, feminine and neuter. The words “include,” “includes,” “included” and “including” mean “‘include,’ etc., without limitation.” The word “shall” is mandatory and the word “may” is permissive. The word “business day” means a calendar day other than any national or local holiday on which federal government agencies in the County of San Diego are closed for business, or any weekend. The section headings of this Lease are not a part of this Lease and shall have no effect upon the construction or interpretation of any part of this Lease. Landlord and Tenant have each participated in the drafting and negotiation of this Lease, and the language in all parts of this Lease shall be in all cases construed as a whole according to its fair meaning and not strictly for or against either Landlord or Tenant.

40.7 Except as otherwise expressly set forth in this Lease, each party shall pay its own costs and expenses incurred in connection with this Lease and such party’s performance under this Lease; provided that, if either party commences an action, proceeding, demand, claim, action, cause of action or suit against the other party arising from or in connection with this Lease, then the substantially prevailing party shall be reimbursed by the other party for all reasonable costs and expenses, including reasonable attorneys’ fees and expenses, incurred by the substantially prevailing party in such action, proceeding, demand, claim, action, cause of action or suit, and in any appeal in connection therewith (regardless of whether the applicable action, proceeding, demand, claim, action, cause of action, suit or appeal is voluntarily withdrawn or dismissed). In addition, Landlord shall, upon demand, be entitled to all reasonable attorneys’ fees and all other reasonable costs incurred in the preparation and service of any notice or demand hereunder, regardless of whether a legal action is subsequently commenced, or incurred in connection with any contested matter or other proceeding in bankruptcy court concerning this Lease.

40.8 Time is of the essence with respect to the performance of every provision of this Lease.

40.9 Each provision of this Lease performable by Tenant shall be deemed both a covenant and a condition.

40.10 Notwithstanding anything to the contrary contained in this Lease, Tenant’s obligations under this Lease are independent and shall not be conditioned upon performance by Landlord.

40.11 Any provision of this Lease that shall prove to be invalid, void or illegal shall in no way affect, impair or invalidate any other provision hereof, and all other provisions of this Lease shall remain in full force and effect and shall be interpreted as if the invalid, void or illegal provision did not exist.

40.12 Each of the covenants, conditions and agreements herein contained shall inure to the benefit of and shall apply to and be binding upon the parties hereto and their respective heirs; legatees; devisees; executors; administrators; and permitted successors and assigns. This Lease is for the sole benefit of the parties and their respective heirs, legatees, devisees, executors, administrators and permitted successors and assigns, and nothing in this Lease shall give or be construed to give any other person or entity any legal or equitable rights. Nothing in this Section shall in any way alter the provisions of this Lease restricting assignment or subletting.

40.13 This Lease shall be governed by, construed and enforced in accordance with the laws of the state in which the Premises are located, without regard to such state's conflict of law principles.

40.14 Tenant guarantees, warrants and represents that the individual or individuals signing this Lease have the power, authority and legal capacity to sign this Lease on behalf of and to bind all entities, corporations, partnerships, limited liability companies, joint venturers or other organizations and entities on whose behalf such individual or individuals have signed. Landlord guarantees, warrants and represents that the individual or individuals signing this Lease on behalf of Landlord have the power, authority and legal capacity to sign this Lease on behalf of and to bind Landlord.

40.15 This Lease may be executed in one or more counterparts, each of which, when taken together, shall constitute one and the same document.

40.16 No provision of this Lease may be modified, amended or supplemented except by an agreement in writing signed by Landlord and Tenant.

40.17 No waiver of any term, covenant or condition of this Lease shall be binding upon Landlord unless executed in writing by Landlord. The waiver by Landlord of any breach or default of any term, covenant or condition contained in this Lease shall not be deemed to be a waiver of any preceding or subsequent breach or default of such term, covenant or condition or any other term, covenant or condition of this Lease.

40.18 To the extent permitted by Applicable Laws, the parties waive trial by jury in any action, proceeding or counterclaim brought by the other party hereto related to matters arising from or in any way connected with this Lease; the relationship between Landlord and Tenant; Tenant's use or occupancy of the Premises; or any claim of injury or damage related to this Lease or the Premises.

40.19 A facsimile, electronic or portable document format (PDF) signature on this Lease or any other document required or permitted by this Lease to be delivered by Landlord or Tenant shall be equivalent to, and have the same force and effect as, an original signature.

40.20 For purposes of this Lease, "Force Majeure" means accidents; breakage; casualties (to the extent not caused by the party claiming Force Majeure); Severe Weather Conditions (as defined below); physical natural disasters (but excluding weather conditions that are not Severe Weather Conditions); strikes, lockouts or other labor disturbances or labor disputes (other than labor disturbances and labor disputes resulting solely from the acts or omissions of the party claiming Force Majeure); acts of terrorism; riots or civil disturbances; wars or insurrections; plagues, epidemics, pandemics, or public health crises (including regulations, actions or delays by Governmental Authorities resulting from any such plague, epidemic, pandemic or public health crisis); shortages of materials (which shortages are not unique to the party claiming Force Majeure); regulations, moratoria or other actions, inactions or delays by Governmental Authorities (including delays due to excess time in obtaining governmental permits or approvals (including permits or approvals required from The Regents of the University of California) beyond the time period normally required to obtain such permits or approvals); failures to grant consent or delays

in granting consent by the Ground Lessor or any Lender whose consent is required under any applicable Loan Document; failures by third parties to deliver gas, oil or another suitable fuel supply, or inability of the party claiming Force Majeure, by exercise of reasonable diligence, to obtain gas, oil or another suitable fuel; or other causes beyond the reasonable control of the party claiming that Force Majeure has occurred. "Severe Weather Conditions" means weather conditions that are materially worse than those that would be reasonably anticipated for the Property at the applicable time based on historic meteorological records. Notwithstanding anything in this Lease to the contrary, events of Force Majeure shall excuse timely performance of a party hereunder (other than either party's obligation to pay any amounts hereunder, which shall not be excused by Force Majeure) for a period equal to the delay caused thereby and, therefore, if this Lease specifies a time period for performance of an obligation of either party, that time period shall be extended by the period of any delay in such party's performance caused by an event of Force Majeure.

41. Equal Opportunity.

41.1 Tenant shall not discriminate against any person employed or seeking employment on the Premises because of race, color, marital status, age, religion, sex, sexual orientation, handicap or national origin. Tenant shall by policy and action reasonably endeavor to ensure that all persons employed by it or seeking employment from it on the Premises are treated without regard to race, color, marital status, age, religion, sex, sexual orientation, handicap or national origin. Such action shall include, but shall not be limited to, the following: hiring, upgrading, transfer or demotion, testing or placement, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, overtime or shift assignments, as well as selection for training, including apprenticeship.

41.2 In executing this Lease, Tenant certifies that it does not and will not maintain or provide for its employees any segregated facilities on the Premises. The term "segregated facilities" means any waiting rooms, work areas, restrooms, washrooms, restaurant and any other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains and recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, marital status, religion, or national origin.

41.3 Without limiting Tenant's remedies under this Lease, in the event of Tenant's noncompliance with this Section 41, Landlord may bring judicial action against Tenant to compel compliance.

42. Option to Extend Term. Tenant shall have the option (the "Option") to extend the Term by three (3) years as to the entire Premises (and no less than the entire Premises) upon the following terms and conditions. Any extension of the Term pursuant to the Option shall be on all the same terms and conditions as this Lease, except as follows:

42.1 Base Rent during the Option term shall equal the then-current fair market value for comparable office and laboratory space in the UTC submarket of comparable age, quality, level of finish and proximity to amenities and public transit, and containing the systems and improvements present in the Premises as of the date that Tenant gives Landlord written notice of Tenant's election to exercise the Option ("FMV"). Tenant may, no more than twelve (12) months prior to the date the Term is then scheduled to expire, request Landlord's estimate of the FMV for the Option term. Landlord shall, within fifteen (15) days after receipt of such request, give Tenant a written proposal of such FMV. If Tenant gives written notice to exercise the Option, such notice shall specify whether Tenant accepts Landlord's proposed estimate of FMV. If Tenant does not accept the FMV, then the parties shall endeavor to agree upon the FMV, taking into account all relevant factors, including (a) the size of the Premises, (b) the length of the Option term, (c) rent in comparable buildings in the relevant submarket, including concessions offered to new tenants, such as free rent, tenant improvement allowances and moving allowances, (d) Tenant's creditworthiness and (e) the quality and location of the Building and the Project. In the event that the parties are unable to agree upon the FMV within thirty (30) days after Tenant notifies Landlord that Tenant is exercising the Option, then either party may request that the same be determined as follows: a senior officer of a nationally recognized leasing brokerage firm with local knowledge of the UTC laboratory/research and development leasing submarket (the "Baseball Arbitrator") shall be selected and paid for jointly by Landlord and Tenant. If Landlord and Tenant are unable to agree upon the Baseball Arbitrator, then the same shall be designated by the local chapter of the Judicial Arbitration and Mediation Services or any successor organization thereto (the "JAMS"). The Baseball Arbitrator selected by the parties or designated by JAMS shall (y) have at least ten (10) years' experience in the leasing of laboratory/research and development space in the UTC submarket and (z) not have been employed or retained by either Landlord or Tenant or any affiliate of either for a period of at least ten (10) years prior to appointment pursuant hereto. Each of Landlord and Tenant shall submit to the Baseball Arbitrator and to the other party its determination of the FMV. The Baseball Arbitrator shall grant to Landlord and Tenant a hearing and the right to submit evidence. The Baseball Arbitrator shall determine which of the two (2) FMV determinations more closely represents the actual FMV. The arbitrator may not select any other FMV for the Premises other than one submitted by Landlord or Tenant. The FMV selected by the Baseball Arbitrator shall be binding upon Landlord and Tenant and shall serve as the basis for determination of Base Rent payable for the Option term. If, as of the commencement date of the Option term, the amount of Base Rent payable during the Option term shall not have been determined, then, pending such determination, Tenant shall pay Base Rent equal to the Base Rent payable with respect to the last year of the then-current Term. After the final determination of Base Rent payable for the Option term, the parties shall promptly execute a written amendment to this Lease specifying the amount of Base Rent to be paid during the Option term. Any failure of the parties to execute such amendment shall not affect the validity of the FMV determined pursuant to this Section.

42.2 The Option is not assignable separate and apart from this Lease.

42.3 The Option is conditional upon Tenant giving Landlord written notice of its election to exercise the Option at least nine (9) months prior to the end of the expiration of the then-current Term. Time shall be of the essence as to Tenant's exercise of the Option. Tenant assumes full responsibility for maintaining a record of the deadlines to exercise the Option. Tenant acknowledges that it would be inequitable to require Landlord to accept any exercise of the Option after the date provided for in this Section.

42.4 Notwithstanding anything contained in this Article to the contrary, Tenant shall not have the right to exercise the Option:

(a) During the time commencing from the date Landlord delivers to Tenant a written notice that Tenant is in default under any provisions of this Lease and continuing until Tenant has cured the specified default to Landlord's reasonable satisfaction; or

(b) At any time after any Default as described in Article 31 of the Lease (provided, however, that, for purposes of this Section 42.4(b), Landlord shall not be required to provide Tenant with notice of such Default) and continuing until Tenant cures any such Default, if such Default is susceptible to being cured; or

(c) In the event that Tenant has defaulted in the performance of its monetary or material non-monetary obligations under this Lease two (2) or more times during the twelve (12)-month period immediately prior to the date that Tenant intends to exercise the Option, whether or not Tenant has cured such defaults.

42.5 The period of time within which Tenant may exercise the Option shall not be extended or enlarged by reason of Tenant's inability to exercise such Option because of the provisions of Section 42.4.

42.6 All of Tenant's rights under the provisions of the Option shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Option if, after such exercise, but prior to the commencement date of the new term, (a) Tenant fails to pay to Landlord a monetary obligation of Tenant for a period of twenty (20) days after written notice from Landlord to Tenant, (b) Tenant fails to commence to cure a default (other than a monetary default) within thirty (30) days after the date Landlord gives notice to Tenant of such default or (c) Tenant has defaulted under this Lease two (2) or more times and a service or late charge under Section 31.1 has become payable for any such default, whether or not Tenant has cured such defaults.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the date first above written.

LANDLORD:

BMR-ATHENA LP,
a Delaware limited partnership

By: */s/ Marie Lewis*
Name: Marie Lewis
Title: Senior Vice President, Legal and Assistant Secretary

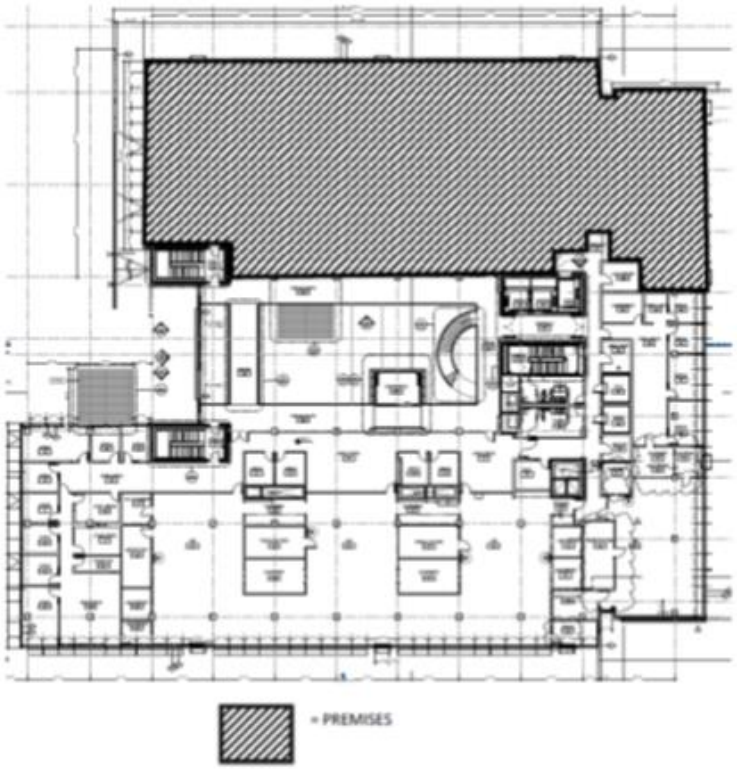
TENANT:

TURNSTONE BIOLOGICS CORP.,
a Delaware corporation

By: */s/ Sammy Farah*
Name: Sammy Farah
Title: President & CEO

EXHIBIT A

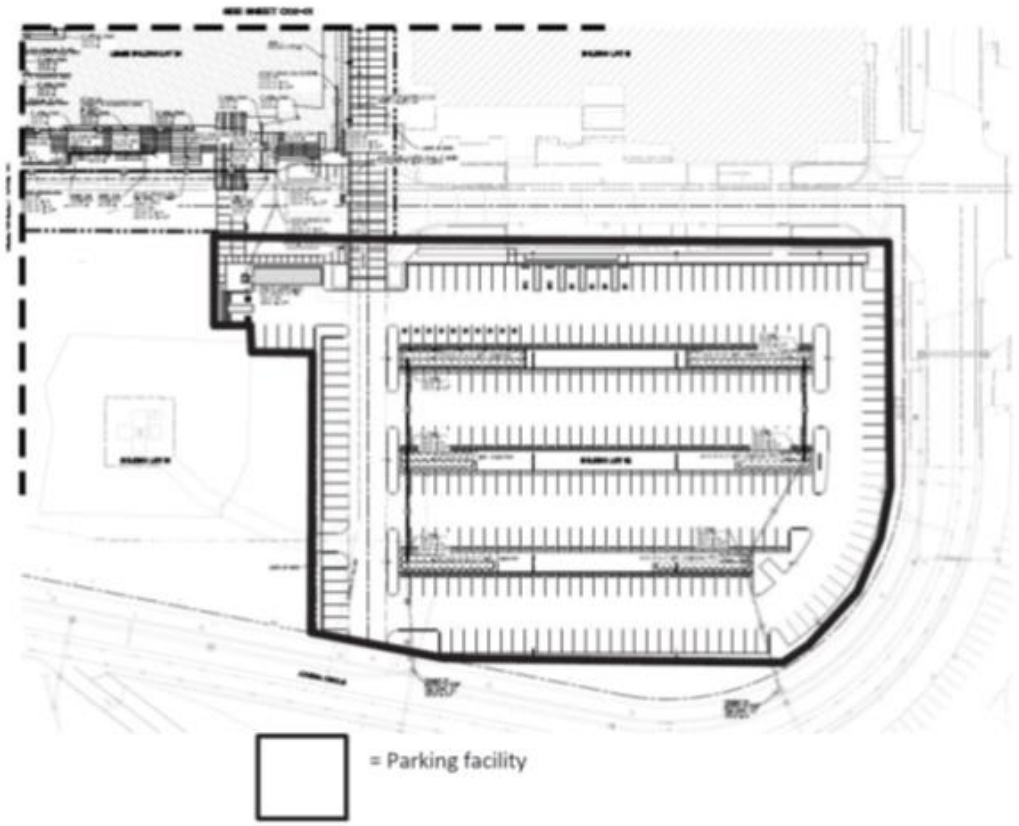
PREMISES



Note: The depiction above is intended to show a general outline of the location of the Premises only. Landlord makes no representation or warranty whatsoever regarding the items and/or configuration shown or described in such depiction, including whether any such item exists and/or whether any such configuration is accurate.

EXHIBIT A-1

PARKING



Note: This Exhibit A-1 is intended to show the general outline of the surface parking lot serving the Building as of the Execution Date. Any other items depicted in this Exhibit A-1 (including, without limitation, total number of spaces, location of spaces, designation of spaces, measurements, bike racks and any notes set forth on this Exhibit A-1) shall be inapplicable and shall have no force or effect and Landlord makes no representation or warranty with respect to any such items, including whether any such items reflect the existing state of such surface parking lot.

EXHIBIT B

WORK LETTER

This Work Letter (this "Work Letter") is made and entered into as of the [23rd] day of [June], 2021, by and between BMR-ATHENA LP, a Delaware limited partnership ("Landlord"), and TURNSTONE BIOLOGICS CORP., a Delaware corporation ("Tenant"), and is attached to and made a part of that certain Lease dated as of [June 23], 2021 (as the same may be amended, amended and restated, supplemented or otherwise modified from time to time, the "Lease"), by and between Landlord and Tenant for the Premises located at 9310 Athena Circle, La Jolla, California. All capitalized terms used but not otherwise defined herein shall have the meanings given them in the Lease.

1. General Requirements.

1.1 Authorized Representatives.

(a) Landlord designates, as Landlord's authorized representative ("Landlord's Authorized Representative"), (i) Chris Burrus as the person authorized to initial plans, drawings, approvals and to sign change orders pursuant to this Work Letter and (ii) any officer of Landlord as the person authorized to sign any amendments to this Work Letter or the Lease. Tenant shall not be obligated to respond to or act upon any such item until such item has been initialed or signed (as applicable) by the appropriate Landlord's Authorized Representative. Landlord may change either Landlord's Authorized Representative upon one (1) business day's prior written notice to Tenant.

(b) Tenant designates Sammy Farrah [***] ("Tenant's Authorized Representative") as the person authorized to initial and sign all plans, drawings, change orders and approvals pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any such item until such item has been initialed or signed (as applicable) by Tenant's Authorized Representative. Tenant may change Tenant's Authorized Representative upon one (1) business day's prior written notice to Landlord.

1.2 Schedule. The schedule for design and development of the Tenant Improvements, shall be in accordance with a schedule to be prepared by Landlord (the "Schedule"). The Schedule shall be subject to adjustment as mutually agreed upon in writing by the parties, or as otherwise provided in this Work Letter.

1.3 Landlord's Architects, Contractors and Consultants. The architect, engineering consultants, design team, general contractor and subcontractors responsible for the construction of the Tenant Improvements shall be selected by Landlord.

2. Tenant Improvements. All Tenant Improvements shall be performed by Landlord's contractor, at Landlord's sole cost and expense (and not includible in Operating Expenses, but subject to Tenant's obligations with respect to any Tenant Changes pursuant to Article 4 of the Lease) and in substantial accordance with the Approved Plans (as defined below), the Lease and this Work Letter. If Tenant fails to pay, or is late in paying, any sum due to Landlord under the Lease or this Work Letter, then Landlord shall have all of the rights and remedies set forth in the

Lease for nonpayment of Rent (including the right to interest and the right to assess a late charge), and for purposes of any litigation instituted with regard to such amounts the same shall be considered Rent. All material and equipment furnished by Landlord or its contractors as the Tenant Improvements shall be new or "like new," and the Tenant Improvements shall be performed in a first-class, workmanlike manner.

2.1 Approved Plans. Landlord will construct the Tenant Improvements in the Premises in accordance with the plans set forth in Schedule 1 attached hereto (the "Approved Plans"). The Tenant Improvements will be constructed using Building standard materials and finishes as determined by Landlord unless otherwise noted on the Approved Plans.

2.2 Construction Plans. If Landlord determines that more detailed plans are necessary, Landlord shall prepare final plans and specifications for the Tenant Improvements that (a) are consistent with and are logical evolutions of the Approved Plans and (b) incorporate any Tenant Changes or Landlord Changes (as defined in Article 4 of the Lease). Landlord will cause the Approved Plans or the more detailed plans prepared in accordance with this Section 2.2 to the applicable Governmental Authorities to obtain any permits required for the construction of the Tenant Improvements.

3. Requests for Consent. Except as otherwise provided in this Work Letter, Tenant shall respond to all requests for consents, approvals or directions made by Landlord pursuant to this Work Letter within five (5) business days following Tenant's receipt of such request. Tenant's failure to respond within such five (5) business day period shall be deemed approval by Tenant.

4. Miscellaneous.

4.1 Incorporation of Lease Provisions. Sections 40.6 through 40.20 and Section 41 of the Lease are incorporated into this Work Letter by reference, and shall apply to this Work Letter in the same way that they apply to the Lease.

4.2 General. Except as otherwise set forth in the Lease or this Work Letter, this Work Letter shall not apply to improvements performed in any additional premises added to the Premises at any time or from time to time, whether by any options under the Lease or otherwise; or to any portion of the Premises or any additions to the Premises in the event of a renewal or extension of the original Term, whether by any options under the Lease or otherwise, unless the Lease or any amendment or supplement to the Lease expressly provides that such additional premises are to be delivered to Tenant in the same condition as the initial Premises.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Work Letter to be effective on the date first above written.

LANDLORD:

BMR-ATHENA LP,
a Delaware limited partnership

By: /s/ Marie Lewis
Name: Marie Lewis
Title: Senior Vice President, Legal and Assistant Secretary

TENANT:

TURNSTONE BIOLOGICS CORP.,
a Delaware corporation

By: /s/ Sammy Farah
Name: Sammy Farah
Title: President & CEO

SCHEDULE 1

APPROVED PLANS

Note: The Tenant Improvements shall not include any furniture, fixtures and equipment (other than the lab benches shown within the Premises on the Approved Plans, which are being provided as part of the Tenant Improvements), even though such items may be shown on the Approved Plans (Landlord and Tenant further acknowledging and agreeing that such items are included on the Approved Plans for illustrative purposes only). Further, Landlord makes no representation or warranty with respect to anything depicted on the Approved Plans outside of the Premises (including whether any depicted items or specific layout exists) and any such depicted items and/or layouts shall be inapplicable and shall have no force or effect.

EXHIBIT B-1

TENANT WORK INSURANCE SCHEDULE

1. Types of Coverage. Tenant shall maintain or cause Tenant's contractors performing construction or renovation work to maintain such insurance as shall protect it from the claims set forth below that may arise out of or result from any Tenant Work, whether such Tenant Work is completed by Tenant or by any Tenant contractors or by any person directly or indirectly employed by Tenant or any Tenant contractors, or by any person for whose acts Tenant or any Tenant contractors may be liable:

a. Commercial General Liability. Commercial general liability insurance written on the ISO form CG 00 01 or equivalent, including products and completed operations, on an occurrence basis. Such coverage shall apply to all Tenant Work done by Tenant's contractors and subcontractors of all tiers and provide insurance against personal injury, wrongful death, and property damage (other than to the Tenant Work itself). The policy shall include contractual liability coverage sufficient to address the obligations of the Lease and the Tenant Work. This insurance policy shall include Landlord Parties as additional insureds with endorsements equivalent to ISO CG 20 10 04/13 for ongoing operations, and to ISO CG 20 37 04/13 for completed operations. This policy shall be primary and noncontributory with respect to any other insurance available to an additional insured. The policy shall include endorsement ISO CG 24 04 or its equivalent, a waiver of subrogation in favor of the Landlord Parties. Tenant contractors' Commercial General Liability Insurance shall include premises/operations (including explosion, collapse and underground coverage if such Tenant Work involves any underground work), elevators, independent contractors, products and completed operations, and blanket contractual liability on all written contracts, all including broad form property damage coverage. Coverage for completed operations must be maintained through the applicable statue of repose period following completion of the Tenant Work.

b. Business Automobile Liability Insurance. Business Automobile Liability Insurance on an "occurrence" form covering any or all autos (including owned, hired, leased and non-owned vehicles) used by or on behalf of the insured, and providing insurance for bodily injury and property damage. The policy shall include coverage for loading and unloading activities. This policy shall include the Landlord Parties as additional insureds, with endorsements.

c. Workers' Compensation and Employer's Liability Insurance. For all operations, Workers' Compensation insurance in compliance with statutory limits for the Workers' Compensation Laws of the state in which the Premises are located, and an Employer's Liability limit of not less than $1,000,000 each accident.

d. Contractors' Pollution Liability. Contractors and subcontractors handling, removing or treating Hazardous Materials shall maintain pollution liability insurance. Such coverage shall include bodily injury, sickness, disease, death or mental anguish or shock sustained by any person; property damage or environmental damage, including physical injury to or destruction of tangible property (including the resulting loss of use thereof), contractual liability coverage to cover liability arising out of cleanup, removal, storage or handling of hazardous or toxic chemicals, materials or substances, or any other pollutants (including mold, asbestos or asbestos-containing materials); and defense costs, charges and expenses incurred in the

investigation, adjustment or defense of claims for such damages. Claims-made coverage is permitted, provided that the policy retroactive date is continuously maintained prior to the commencement of the Tenant Work. This policy shall include the Landlord Parties as additional insureds, with endorsements.

e. Professional Liability (Errors and Omissions). Contractors and subcontractors of any tier performing Tenant Work that includes any professional services, including design, architecture, engineering, testing, surveying or design/build services shall provide and maintain professional liability insurance. Coverage shall be maintained following completion of the Tenant Work through the applicable statute of repose of the state in which the Premises are located.

2. Minimum Limits of Insurance. All coverage types as defined above to be procured by Tenant's general contractor and designer for any Tenant Work shall be written for limits of insurance not less than:

Coverage	Cost of Work	Minimum Limits of Insurance
a. Commercial General Liability * Limits may be met by use of excess and/or umbrella liability insurance, provided that such coverage is at least as broad as the primary coverages required herein	<$200 million	$100 million per occurrence, general aggregate, and products and completed operations aggregate
	<$100 million	$50 million per occurrence, general aggregate, and products and completed operations aggregate
	<$50 million	$25 million per occurrence, general aggregate, and products and completed operations aggregate
	<$25 million	$10 million per occurrence, general aggregate, and products and completed operations aggregate
	<$10 million	$5 million per occurrence, general aggregate, and products and completed operations aggregate
	<$5 million	$2 million per occurrence, general aggregate, and products and completed operations aggregate
b. Commercial Automobile Liability * Limits may be met by use of excess and/or umbrella liability insurance, provided that such coverage is at least as broad as the primary coverages required herein	≥$25 million	$25 million combined single limit
	<$25 million	$10 million combined single limit
	<$10 million	$5 million combined single limit
	<$5 million	$2 million combined single limit
c. Workers' Compensation	At all times	As required by Applicable Laws

d. Contractor's Pollution Liability	At all times	$2 million per location and $4 million aggregate
e. Professional Liability (Errors and Omissions)	<$200 million	$10 million per project and in the aggregate
	<$75 million	$5 million per project and in the aggregate
	<$25 million	$2 million per project and $4 million aggregate
	<$10 million	$1 million per project and $2 million aggregate

3. Notice of Cancelation. The foregoing policies shall contain a provision that coverages afforded under the policies shall not be canceled or not renewed until at least thirty (30) days' prior written notice has been given to the Landlord.

4. Evidence of Insurance. Certificates of insurance, including required endorsements showing such coverages to be in force, shall be provided to Landlord prior to the commencement of any Tenant Work and prior to each renewal.

5. Insurer Ratings. The minimum A.M. Best's rating of each insurer shall be A-VII.

6. Additional Insureds. The policies shall name Landlord Parties as additional insureds to the extent required by the Lease, the Work Letter or this Exhibit.

7. Waiver of Subrogation. Tenant, contractors and subcontractors, and each of their respective insurers shall provide waivers of subrogation in favor of the Landlord Parties with respect to all insurance required by the Lease, the Work Letter or this Exhibit.

8. Tenant's Contractors. Tenant shall require all other persons, firms and corporations engaged or employed by Tenant in connection with the performance of Tenant Work to carry and maintain coverages with limits not less than those required by this Exhibit. Tenant's contractors' and subcontractors' insurance compliance, including any coverage exceptions, shall be Tenant's responsibility. Tenant shall incorporate these insurance requirements by reference within any contract executed by Tenant and its contractors. Tenant shall obtain and verify the accuracy of certificates of insurance evidencing required coverage prior to permitting its contractors, subcontractors (of any tier), suppliers and agents from performing any Tenant Work or services at the Premises. Tenant shall furnish original certificates of insurance with additional insured endorsements from Tenant's contractors, subcontractors (of any tier), suppliers and agents as evidence thereof, as Landlord may reasonably request.

9. No Limit of Liability. It is expressly acknowledged and agreed that the insurance policies and limits required hereunder shall not limit the liability of Tenant or its contractors or subcontractors, and that Landlord makes no representation that these types or amounts of insurance are sufficient or adequate to protect Tenant or its contractors' or subcontractors' interests or liabilities, but are merely minimums. Any insurance carried by Landlord shall be secondary and non-contributory to that carried by Tenant and/or its contractors or subcontractors.

10. Ground Lease. If any Tenant Work triggers any insurance requirement under the Ground Lease (e.g., work affecting the exterior of the Building or life safety systems), Tenant will comply with any additional or increased insurance requirements of Ground Lessor.

EXHIBIT C

ACKNOWLEDGEMENT OF TERM COMMENCEMENT DATE
AND TERM EXPIRATION DATE

THIS ACKNOWLEDGEMENT OF TERM COMMENCEMENT DATE AND TERM EXPIRATION DATE is entered into as of [_____], 20[___], with reference to that certain Lease (the "Lease") dated as of [_____], 2021, by TURNSTONE BIOLOGICS CORP., a Delaware corporation ("Tenant"), in favor of BMR-ATHENA LP, a Delaware limited partnership ("Landlord"). All capitalized terms used herein without definition shall have the meanings ascribed to them in the Lease.

Tenant hereby confirms the following, as of the date hereof:

1. Tenant accepted possession of the Premises for use in accordance with the Permitted Use on [_____], 20[__]. Tenant first occupied the Premises for the Permitted Use on [_____], 20[__].

2. The Premises are in good order, condition and repair.

3. The Tenant Improvements are Substantially Complete.

4. All conditions of the Lease to be performed by Landlord as a condition to the full effectiveness of the Lease have been satisfied, and Landlord has fulfilled all of its duties in the nature of inducements offered to Tenant to lease the Premises.

5. In accordance with the provisions of Article 4 of the Lease, the Term Commencement Date is [_____], 20[__], and, unless the Lease is terminated prior to the Term Expiration Date pursuant to its terms, the Term Expiration Date shall be [_____], 20[__].

6. The Lease is in full force and effect, and the same represents the entire agreement between Landlord and Tenant concerning the Premises[, except [_____]].

7. Tenant has no existing defenses against the enforcement of the Lease by Landlord, and there exist no offsets or credits against Rent owed or to be owed by Tenant.

8. The obligation to pay Rent is presently in effect and all Rent obligations on the part of Tenant under the Lease commenced to accrue on [_____], 20[__], with Base Rent payable on the dates and amounts set forth in the chart below:

Dates	Approximate Square Feet of Rentable Area	Base Rent per Square Foot of Rentable Area	Monthly Base Rent	Annual Base Rent
[__]/[__]/[__]- [__]/[__]/[__]	[ ]	$[_____] [monthly][OR][annually]	[ ]	[ ]

9. The undersigned Tenant has not made any prior assignment, transfer, hypothecation or pledge of the Lease or of the rents thereunder or sublease of the Premises or any portion thereof.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, Tenant has executed this Acknowledgment of Term Commencement Date and Term Expiration Date as of the date first written above.

TENANT:

TURNSTONE BIOLOGICS CORP., a Delaware corporation

By: _____
Name: _____
Title: _____

EXHIBIT D

FORM OF TI ALLOWANCE ACCEPTANCE LETTER

[TENANT LETTERHEAD]

BMR-ATHENA LP
4570 Executive Drive, Suite 400
San Diego, California 92121
Attn: Legal Department

[Date]

Re: TI Allowance

To Whom It May Concern:

This letter concerns that certain Lease dated as of [_____], 2021 (the "Lease"), between BMR-ATHENA LP, a Delaware limited partnership ("Landlord") and TURNSTONE BIOLOGICS CORP., a Delaware corporation ("Tenant"). Capitalized terms not otherwise defined herein shall have the meanings given them in the Lease.

Tenant hereby notifies Landlord that it wishes to exercise its right to utilize the TI Allowance pursuant to Article 4 of the Lease.

If you have any questions, please do not hesitate to call [_____] at ([___]) [____]-[____].

Sincerely,

[Name]
[Title of Authorized Signatory]

cc: Karen Sztraicher
Jon Bergschneider
John Lu
Kevin Simonsen

EXHIBIT E

FORM OF LETTER OF CREDIT

[On letterhead or L/C letterhead of Issuer]

LETTER OF CREDIT

Date: _____, 20__

_____ (the "Beneficiary")
_____
_____
Attention: _____
L/C. No.: _____
Loan No. : _____

Ladies and Gentlemen:

We establish in favor of Beneficiary our irrevocable and unconditional Letter of Credit numbered as identified above (the "L/C") for an aggregate amount of $_____, expiring at __:00 p.m. on _____ or, if such day is not a Banking Day, then the next succeeding Banking Day (such date, as extended from time to time, the "Expiry Date"). "Banking Day" means a weekday except a weekday when commercial banks in ____ are authorized or required to close.

We authorize Beneficiary to draw on us (the "Issuer") for the account of _____ (the "Account Party"), under the terms and conditions of this L/C.

Funds under this L/C are available by presenting the following documentation (the "Drawing Documentation"): (a) the original L/C and (b) a sight draft substantially in the form of Attachment 1, with blanks filled in and bracketed items provided as appropriate. No other evidence of authority, certificate, or documentation is required.

Drawing Documentation must be presented at Issuer's office at _____ on or before the Expiry Date by personal presentation, courier or messenger service, or fax. Presentation by fax shall be effective upon electronic confirmation of transmission as evidenced by a printed report from the sender's fax machine. After any fax presentation, but not as a condition to its effectiveness, Beneficiary shall with reasonable promptness deliver the original Drawing Documentation by any other means. Issuer will on request issue a receipt for Drawing Documentation.

We agree, irrevocably, and irrespective of any claim by any other person, to honor drafts drawn under and in conformity with this L/C, within the maximum amount of this L/C, presented to us on or before the Expiry Date, provided we also receive (on or before the Expiry Date) any other Drawing Documentation this L/C requires.

We shall pay this L/C only from our own funds by check or wire transfer, in compliance with the Drawing Documentation.

If Beneficiary presents proper Drawing Documentation to us on or before the Expiry Date, then we shall pay under this L/C at or before the following time (the "Payment Deadline"): (a) if presentment is made at or before noon of any Banking Day, then the close of such Banking Day; and (b) otherwise, the close of the next Banking Day. We waive any right to delay payment beyond the Payment Deadline. If we determine that Drawing Documentation is not proper, then we shall so advise Beneficiary in writing, specifying all grounds for our determination, within one Banking Day after the Payment Deadline.

Partial drawings are permitted. This L/C shall, except to the extent reduced thereby, survive any partial drawings.

We shall have no duty or right to inquire into the validity of or basis for any draw under this L/C or any Drawing Documentation. We waive any defense based on fraud or any claim of fraud.

The Expiry Date shall automatically be extended by one year (but never beyond _____ (the "Outside Date")) unless, on or before the date 90 days before any Expiry Date, we have given Beneficiary notice that the Expiry Date shall not be so extended (a "Nonrenewal Notice"). We shall promptly upon request confirm any extension of the Expiry Date under the preceding sentence by issuing an amendment to this L/C, but such an amendment is not required for the extension to be effective. We need not give any notice of the Outside Date.

Beneficiary may from time to time without charge transfer this L/C, in whole but not in part, to any transferee (the "Transferee"). Issuer shall look solely to Account Party for payment of any fee for any transfer of this L/C. Such payment is not a condition to any such transfer. Beneficiary or Transferee shall consummate such transfer by delivering to Issuer the original of this L/C and a Transfer Notice substantially in the form of Attachment 2, purportedly signed by Beneficiary, and designating Transferee. Issuer shall promptly reissue or amend this L/C in favor of Transferee as Beneficiary. Upon any transfer, all references to Beneficiary shall automatically refer to Transferee, who may then exercise all rights of Beneficiary. Issuer expressly consents to any transfers made from time to time in compliance with this paragraph.

Any notice to Beneficiary shall be in writing and delivered by hand with receipt acknowledged or by overnight delivery service such as FedEx (with proof of delivery) at the above address, or such other address as Beneficiary may specify by written notice to Issuer. A copy of any such notice shall also be delivered, as a condition to the effectiveness of such notice, to: _____ (or such replacement as Beneficiary designates from time to time by written notice).

No amendment that adversely affects Beneficiary shall be effective without Beneficiary's written consent.

This L/C is subject to and incorporates by reference: (a) the International Standby Practices 98 ("ISP 98"); and (b) to the extent not inconsistent with ISP 98, Article 5 of the Uniform Commercial Code of the State of New York.

Very truly yours,

[Issuer Signature]

ATTACHMENT 1 TO EXHIBIT E

FORM OF SIGHT DRAFT

[BENEFICIARY LETTERHEAD]

TO:

[Name and Address of Issuer]

SIGHT DRAFT

AT SIGHT, pay to the Order of _____, the sum of _____ United States Dollars ($_____). Drawn under [Issuer] Letter of Credit No. _____ dated _____.

[Issuer is hereby directed to pay the proceeds of this Sight Draft solely to the following account: _____.]

[Name and signature block, with signature or purported signature of Beneficiary]

Date: _____

ATTACHMENT 2 TO EXHIBIT E

FORM OF TRANSFER NOTICE

[BENEFICIARY LETTERHEAD]

TO:

[Name and Address of Issuer] (the "Issuer")

TRANSFER NOTICE

By signing below, the undersigned, Beneficiary (the "Beneficiary") under Issuer's Letter of Credit No. _____ dated _____ (the "L/C"), transfers the L/C to the following transferee (the "Transferee"):

[Transferee Name and Address]

The original L/C is enclosed. Beneficiary directs Issuer to reissue or amend the L/C in favor of Transferee as Beneficiary. Beneficiary represents and warrants that Beneficiary has not transferred, assigned, or encumbered the L/C or any interest in the L/C, which transfer, assignment, or encumbrance remains in effect.

[Name and signature block, with signature or purported signature of Beneficiary]

Date: _____]

EXHIBIT F

RULES AND REGULATIONS

NOTHING IN THESE RULES AND REGULATIONS ("RULES AND REGULATIONS") SHALL SUPPLANT ANY PROVISION OF THE LEASE. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN THESE RULES AND REGULATIONS AND THE LEASE, THE LEASE SHALL PREVAIL.

1. No Tenant Party shall encumber or obstruct the common entrances, lobbies, elevators, sidewalks and stairways of the Building(s) or the Project or use them for any purposes other than ingress or egress to and from the Building(s) or the Project.

2. Except as specifically provided in the Lease, no sign, placard, picture, advertisement, name or notice shall be installed or displayed on any part of the outside of the Premises or the Building(s) without Landlord's prior written consent. Landlord shall have the right to remove, at Tenant's sole cost and expense and without notice, any sign installed or displayed in violation of this rule.

3. If Landlord objects in writing to any curtains, blinds, shades, screens, hanging plants or other similar objects attached to or used in connection with any window or door of the Premises or placed on any windowsill, and (a) such window, door or windowsill is visible from the exterior of the Premises and (b) such curtain, blind, shade, screen, hanging plant or other object is not included in plans approved by Landlord, then Tenant shall promptly remove such curtains, blinds, shades, screens, hanging plants or other similar objects at its sole cost and expense.

4. No deliveries shall be made that impede or interfere with other tenants in or the operation of the Project. Movement of furniture, office equipment or any other large or bulky material(s) through the Common Area shall be restricted to such hours as Landlord may designate and shall be subject to reasonable restrictions that Landlord may impose.

5. Tenant shall not place a load upon any floor of the Premises that exceeds the load per square foot that (a) such floor was designed to carry or (b) is allowed by Applicable Laws. Fixtures and equipment that cause noises or vibrations that may be transmitted to the structure of the Building(s) to such a degree as to be objectionable to other tenants shall be placed and maintained by Tenant, at Tenant's sole cost and expense, on vibration eliminators or other devices sufficient to eliminate such noises and vibrations to levels reasonably acceptable to Landlord and the affected tenants of the Project.

6. Tenant shall not use any method of HVAC other than that present at the Project and serving the Premises as of the Execution Date, or except as expressly set forth in the Lease.

7. Tenant shall not install any radio, television or other antennae; cell or other communications equipment; or other devices on the roof or exterior walls of the Premises except in accordance with the Lease. Tenant shall not interfere with radio, television or other digital or electronic communications at the Project or elsewhere.

8. Canvassing, peddling, soliciting and distributing handbills or any other written material within, on or around the Project (other than within the Premises) are prohibited. Tenant shall cooperate with Landlord to prevent such activities by any Tenant Party.

9. Tenant shall store all of its trash, garbage and Hazardous Materials in receptacles within its Premises or in receptacles designated by Landlord outside of the Premises. Tenant shall not place in any such receptacle any material that cannot be disposed of in the ordinary and customary manner of trash, garbage and Hazardous Materials disposal. Any Hazardous Materials transported through Common Area shall be held in secondary containment devices. Tenant shall be responsible, at its sole cost and expense, for Tenant's removal of its trash, garbage and Hazardous Materials including securing any permits for disposal thereof and ensuring proper transportation of all waste materials to protect the health, safety and well-being of the public. Tenant is encouraged to participate in the waste removal and recycling program in place at the Project.

10. The Premises shall not be used for lodging or for any improper, immoral or objectionable purpose. No cooking shall be done or permitted in the Premises; provided, however, that Tenant may use (a) equipment approved in accordance with the requirements of insurance policies that Landlord or Tenant is required to purchase and maintain pursuant to the Lease for brewing coffee, tea, hot chocolate and similar beverages, (b) microwave ovens for employees' use and (c) equipment shown on Tenant Improvement plans approved by Landlord; provided, further, that any such equipment and microwave ovens are used in accordance with Applicable Laws.

11. Tenant shall not, without Landlord's prior written consent, use the name of the Project, if any, in connection with or in promoting or advertising Tenant's business except as Tenant's address.

12. Tenant shall comply with all safety, fire protection and evacuation procedures and regulations established by Landlord or any Governmental Authority.

13. Tenant assumes any and all responsibility for protecting the Premises from theft, robbery and pilferage, which responsibility includes keeping doors locked and other means of entry to the Premises closed.

14. Tenant shall not modify any locks to the Premises without Landlord's prior written consent, which consent Landlord shall not unreasonably withhold, condition or delay. Tenant shall furnish Landlord with copies of keys, pass cards or similar devices for locks to the Premises.

15. Tenant shall cooperate and participate in all reasonable security programs affecting the Premises.

16. Tenant shall not permit any animals in the Project, other than for service animals. No stable, hutch, barn, coop, or other housing or shelter for animals or for the storage of materials may be placed or maintained upon any Property outside of the Premises. Any animal in the Common Areas must be under the direct control of a person capable of controlling and actually controlling the dog by means of a hand held leash not exceeding 6 feet in length, and must have a valid County or City license attached to its collar.

17. Bicycles shall not be taken into the Building(s) (including the elevators and stairways of the Building) except into areas designated by Landlord. Bicycles must never be ridden in the Project terraces and walkways.

18. The water and wash closets and other plumbing fixtures shall not be used for any purposes other than those for which they were constructed, and no sweepings, rubbish, rags or other substances shall be deposited therein.

19. Discharge of industrial sewage shall only be permitted if Tenant, at its sole expense, first obtains all necessary permits and licenses therefor from all applicable Governmental Authorities.

20. Smoking is prohibited at the Project. The University of California prohibits smoking and the use of tobacco products at all University of California controlled properties ("Smoke Free Policy"), including the Campus. Smoking, the use of smokeless tobacco products, electronic smoking devices (e.g., e-cigarettes), and the use of nicotine products not regulated by the U.S. Food and Drug Administration for treating nicotine or tobacco dependence are strictly prohibited in indoor and outdoor spaces, including parking lots. This Smoke Free Policy applies to all University of California facilities, whether owned or leased, and applies to this Project. The sale and advertising of tobacco, tobacco-related products, electronic smoking devices, and products related to electronic smoking devices are prohibited at all University of California controlled properties except for advertising in newspapers, magazines, or other written materials sold, bought, or distributed on University of California property. This policy applies to all members of the University of California community including academic appointees, staff, students, alumni, volunteers, contractors, visitors, and anyone entering onto University of California controlled properties, including all Tenant Parties.

21. The Project's hours of operation are currently 24 hours a day, seven days a week.

22. Tenant shall comply with all orders, requirements and conditions now or hereafter imposed by Applicable Laws or Landlord ("Waste Regulations") regarding the collection, sorting, separation and recycling of waste products, garbage, refuse and trash generated by Tenant (collectively, "Waste Products"), including (without limitation) the separation of Waste Products into receptacles reasonably approved by Landlord and the removal of such receptacles in accordance with any collection schedules prescribed by Waste Regulations.

23. Tenant, at Tenant's sole cost and expense, shall cause the Premises to be exterminated on a monthly basis to Landlord's reasonable satisfaction and shall cause all portions of the Premises used for the storage, preparation, service or consumption of food or beverages to be cleaned daily in a manner reasonably satisfactory to Landlord, and to be treated against infestation by insects, rodents and other vermin and pests whenever there is evidence of any infestation. Tenant shall not permit any person to enter the Premises or the Project for the purpose of providing such extermination services, unless such persons have been approved by Landlord. If requested by Landlord, Tenant shall, at Tenant's sole cost and expense, store any refuse generated in the Premises by the consumption of food or beverages in a cold box or similar facility.

24. Electric vehicles may be charged using only electric vehicle charging stations installed for that purpose, and no other electrical outlets or connections at the Project may be used for charging vehicles of any kind.

25. If Tenant desires to use any portion of the Common Area for a Tenant-related event, Tenant must notify Landlord in writing at least thirty (30) days prior to such event on the form attached as Attachment 1 to this Exhibit, which use shall be subject to Landlord's prior written consent, not to be unreasonably withheld, conditioned or delayed. Notwithstanding anything in this Lease or the completed and executed Attachment to the contrary, Tenant shall be solely responsible for setting up and taking down any equipment or other materials required for the event, and shall promptly pick up any litter and report any property damage to Landlord related to the event. Any use of the Common Area pursuant to this Section shall be subject to the provisions of Article 28 of the Lease.

26. Firearms and any other items intended for use as weapons are not permitted in the Building(s) or at the Project.

27. Parking lots/parking garages may not be used for overnight parking or storage of vehicles or other miscellaneous items without Landlord's prior written approval. Vehicles and other miscellaneous items left unattended by a Tenant Party in Landlord's parking lots/parking garages for 24 hours or longer may be towed/removed at Tenant's expense.

28. Common shower facilities are intended for use by tenants of the Building(s) or Project after exercising or commuting. Common shower facilities are not to be used to treat exposure to potential hazards or contaminants. Tenants are required to provide separate shower facilities for employee use within individual premises when required for the health and safety of their employees.

29. Tenant shall not load any vehicle at any location other than the loading dock at the Project.

30. Tenant shall not store any materials at any location at the Project outside the Premises.

31. Reasonably offensive and reasonably objectionable noise, glare (whether direct or reflected, such as from floodlights or high-temperature processes), vibrations, dust, smoke, odors, gasses or radiation affecting areas beyond the Premises (including the Common Areas) will not be permitted.

32. Tenant shall use commercially reasonable efforts to ensure that:

a. No sound pressure level is permitted or created which will interfere with the quiet enjoyment of any real property adjacent to or in the vicinity of the Premises, or which will create a nuisance or violate any Applicable Law;

b. No electromagnetic, microwave or other radiation which is harmful or hazardous to any person or property in, on or about the Premises, or anywhere else, is transmitted, received or which materially adversely interferes with the operation of any electrical, electronic, telephonic or other equipment wherever located, whether on the Premises or anywhere else;

c. No vibration discernible by the un-augmented sense of touch outside the Premises is created or permitted; and

d. No intense glare, light or heat is produced or permitted except within an enclosed or screened area and then only in such manner that the glare, light or heat shall not be discernible by the un-augmented sense of touch or sight outside the Premises.

33. Skateboarding and skating in a reckless, disruptive, or unsafe manner is prohibited at the Campus. A reckless, disruptive or unsafe manner is defined as riding at excessive speed and/or performing or practicing stunts; causing noise which disrupts people; riding with undue regard for the safety of others; or riding in a manner that causes damage to Project property and landscape. Skateboards and skates must never be ridden up and down steps, access ramps, retaining walls, seat walls, benches, railings or similar architectural features or in the Project terraces and walkways.

34. Any research operation in the Premises shall be carried on with reasonable precautions against fire and explosion hazards, discharge, seepage, pollution, etc.

35. Any fitness center provided at the Project is for the use of Tenant's employees working at the Premises only. Any such use will be subject to compliance with Landlord's rules and regulations relating to the fitness center, any security or access control system and each employee's signature on Landlord's standard waiver/release form.

COVID-19 RULES AND REGULATIONS

To help minimize the spread of the COVID-19 virus and maintain a safe and healthy work environment, Landlord is temporarily amending the Rules and Regulations as outlined below. We thank you in advance for your cooperation in enforcing the new set of rules and regulations with your employees, visitors and vendors. IN THE EVENT OF A CONFLICT BETWEEN THESE RULES AND REGULATIONS AND THE LEASE, THE TERMS OF THE LEASE SHALL PREVAIL.

1. Tenant must not permit its employees, vendors, contractors or invitees enter the Building/Property/Project if they are sick or experiencing flu-like symptoms.

2. Tenant shall cause its employees, vendors, contractors and invitees who have been ill or have displayed flu-like symptoms to follow all recommendations of the Centers for Disease Control ("CDC") for symptomatic individuals prior to returning to the Building/Property/Project.

3. Tenant shall cause its employees, vendors, contractors and invitees who have been exposed to a known COVID-19-infected individual not to return to the Building/Property/Project until 14 days after their most recent exposure to that infected individual, or as otherwise directed by the CDC or federal, state or local Governmental Authorities.

4. In Common Areas, including elevators and parking garages, Tenant shall cause its employees, vendors, contractors and invitees to wear face coverings or masks, practice social distancing, and maintain six feet of separation from others as much as possible.

5. Tenant shall obtain advance approval from Landlord for gatherings of 10 or more employees, vendors, contractors and invitees in the Common Areas.

6. Tenant must (and must cause its employees, vendors, contractors and invitees to) adhere to signage posted throughout the Building/Property/Project, including related to amenity closures or restrictions.

7. Tenant shall cause its employees, vendors, contractors and invitees to clean up after themselves, wash hands frequently, and not leave trash or other personal items in Common Areas.

8. Tenant must develop a COVID-19 remediation response plan for their Premises and share that plan with Landlord. Additionally, Tenant must share its re-emergence plan with Landlord and continue to provide Landlord with updates as its plan evolves.

9. Tenant must monitor evolving CDC, state and local Governmental Authorities' guidelines, and educate its employees about new guidance and information, as needed.

10. Tenant must promptly report known COVID-19 cases that have occurred at the Building/Property/Project to Landlord, but shall not be obligated to identify the name of the infected individual due to privacy concerns or Applicable Laws.

Landlord may waive any one or more of these Rules and Regulations for the benefit of Tenant or any other tenant, but no such waiver by Landlord shall be construed as a waiver of such Rules and Regulations in favor of Tenant or any other tenant, nor prevent Landlord from thereafter enforcing any such Rules and Regulations against any or all of the tenants of the Project, including Tenant. These Rules and Regulations are in addition to, and shall not be construed to in any way modify or amend, in whole or in part, the terms covenants, agreements and conditions of the Lease. Landlord reserves the right to make such other and reasonable additional rules and regulations as, in its judgment, may from time to time be needed for safety and security, the care and cleanliness of the Project, or the preservation of good order therein; provided, however, that Tenant shall not be obligated to adhere to such additional rules or regulations until Landlord has provided Tenant with written notice thereof. Tenant agrees to abide by these Rules and Regulations and any such additional rules and regulations issued or adopted by Landlord. Tenant shall be responsible for the observance of these Rules and Regulations by all Tenant Parties.

ATTACHMENT 1 TO EXHIBIT F

REQUEST FOR USE OF COMMON AREA

REQUEST FOR USE OF COMMON AREA

Date of Request: _____

Landlord/Owner: _____

Tenant/Requestor: _____

Property Location: _____

Event Description: _____

_____

_____

Proposed Plan for Security & Cleaning: _____

_____

_____

Date of Event: _____

Hours of Event: (to include set-up and take down): _____

Location at Property (see attached map): _____

Number of Attendees: _____

Open to the Public? [___] YES [___] NO

Food and/or Beverages? [___] YES [___] NO

If YES:

- Will food be prepared on site? [___] YES [___] NO
- Please describe: ____
- Will alcohol be served? [___] YES [___] NO
- Please describe: ____
- Will attendees be charged for alcohol? [___] YES [___] NO

- Is alcohol license or permit required? [___] YES [___] NO
- Does caterer have alcohol license or permit: [___] YES [___] NO [___] N/A

Other Amenities (tent, booths, band, food trucks, bounce house, etc.): _____

_____

_____

Other Event Details or Special Circumstances: _____

_____

_____

_____

_____

The undersigned certifies that the foregoing is true, accurate and complete and he/she is duly authorized to sign and submit this request on behalf of the Tenant/Requestor named above.

[INSERT NAME OF TENANT/REQUESTOR]

By: _____
Name: _____
Title: _____
Date: _____

EXHIBIT G

PROPERTY OPERATIONS DOCUMENTS

Mitigation Monitoring and Reporting Program

EXHIBIT H

TENANT'S PROPERTY

None.

EXHIBIT I

FORM OF ESTOPPEL CERTIFICATE

To: BMR-Athena LP

4570 Executive Drive, Suite 400
San Diego, California 92121
Attention: Legal Department

BioMed Realty, L.P.
4570 Executive Drive, Suite 400
San Diego, California 92121

Re: A portion of the third floor (the "Premises") at 9310 Athena Circle, La Jolla, California (the "Property")

The undersigned tenant ("Tenant") hereby certifies to you as of the date hereof as follows:

1. Tenant is a tenant at the Property under a lease (the "Lease") for the Premises dated as of [_____], 20[__]. The Lease has not been cancelled, modified, assigned, extended or amended [except as follows: [_____]], and there are no other agreements, written or oral, affecting or relating to Tenant's lease of the Premises or any other space at the Property. The lease term expires on [_____], 20[__].

2. Tenant took possession of the Premises, currently consisting of [_____] square feet, on [_____], 20[__], and commenced to pay rent on [_____], 20[__]. Tenant has full possession of the Premises, has not assigned the Lease or sublet any part of the Premises, and does not hold the Premises under an assignment or sublease[, except as follows: [____]].

3. All base rent, rent escalations and additional rent under the Lease have been paid through [_____], 20[__]. There is no prepaid rent[, except $[____]] [, and the amount of security deposit is $[____] [in cash][OR][in the form of a letter of credit]]. Tenant currently has no right to any future rent abatement under the Lease.

4. Base rent is currently payable in the amount of $[____] per month.

5. Tenant is currently paying estimated payments of additional rent of $[____] per month on account of real estate taxes, insurance, management fees and Common Area maintenance expenses.

6. All work to be performed for Tenant under the Lease has been performed as required under the Lease and has been accepted by Tenant[, except [____]], and all allowances to be paid to Tenant, including allowances for tenant improvements, moving expenses or other items, have been paid.

7. The Lease is in full force and effect, free from default and free from any event that could become a default under the Lease, and Tenant presently has no claims against the landlord or offsets or defenses against rent, and there are no disputes with the landlord. Tenant has received no notice of prior sale, transfer, assignment, hypothecation or pledge of the Lease or of the rents payable thereunder[, except [____]].

8. [Tenant has the following expansion rights or options for leasing additional space at the Property: [____].][OR][Tenant has no rights or options to purchase the Property.]

9. To Tenant's knowledge, no hazardous wastes have been generated, treated, stored or disposed of by or on behalf of Tenant in, on or around the Premises or the Project in violation of any environmental laws.

10. The undersigned has executed this Estoppel Certificate with the knowledge and understanding that [INSERT NAME OF LANDLORD, PURCHASER OR LENDER, AS APPROPRIATE] or its assignee is [acquiring the Property/making a loan secured by the Property] in reliance on this certificate and that the undersigned shall be bound by this certificate. The statements contained herein may be relied upon by [INSERT NAME OF PURCHASER OR LENDER, AS APPROPRIATE], [LANDLORD], [BioMed Realty, L.P.][OR][BioMed Realty II LP], [BRE Edison L.P.][OR][BRE Edison II LP], and any [other]mortgagee of the Property and their respective successors and assigns.

Any capitalized terms not defined herein shall have the respective meanings given in the Lease.

Dated this [__] day of [____], 20[__].

TURNSTONE BIOLOGICS CORP.,
a Delaware corporation

By: _____
Name: _____
Title: _____

Exhibit 10.10

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

August 20, 2015

Sammy Farah
[***]

Dear Sammy:

Turnstone Biologics, Inc. (the "Company") is pleased to offer you employment on the terms and conditions set out in this letter agreement ("Agreement").

Position and Start Date. Conditional on the closing of the Versant Series A financing, you will be employed by the Company in the position of President and Chief Executive Officer ("CEO"), reporting to the Company's Board of Directors (the "Board"). We anticipate a start date of no later than one (1) month after closing of the Series A Financing, or such other later date as agreed in writing (the "Start Date"). Given the nature of the Company's business, your job will evolve and change over time. Accordingly, the Company may add to or remove from your duties and responsibilities as circumstances change and this Agreement will continue to apply.

Full Time and Attention and Fiduciary. You shall devote full working time and attention and shall exert best efforts, knowledge, skill and energy in the performance of your duties with the Company. While an employee of the Company, you will not, without obtaining the prior written consent of the Company, assume any other employment or engage in any other business or occupation or become a director, officer, employee, agent or consultant for any other company, firm or individual. You will be a fiduciary of the Company and shall act at all times in the Company's best interests.

Base Salary. Your base salary will be paid at a rate of $305,000.00 USD per annum, payable in arrears on a bi-weekly basis, subject to applicable deductions and tax withholding (the "Base Salary"). Your Base Salary will be reviewed annually by the Board. You will serve as a member of the Board of the Company without further compensation.

Incentive Bonus. You will also be eligible to receive an annual incentive bonus of thirty percent (30%) of the Base Salary paid to you in the relevant year, based on objectives to be determined by the Board within sixty (60) days of the Start Date.

Benefits. Currently, the Company does not offer employee health or insurance benefits in Canada. Until you relocate to Toronto, in lieu of health and insurance benefits or until, in the Company's discretion, a plan is established for providing such benefits as may be offered to the Company's employees from time to time (a "Benefits Plan"), the Company will provide you with a healthcare benefits stipend of $TBD, as a taxable benefit ("Healthcare Stipend"), the amount of which will be the cost of your US COBRA health plan subject to Board approval.

Equity Incentive Plan. You shall be eligible to participate in the Company's Equity Incentive Plan, as approved by the Board and as amended from time to time (the "EIP"). You will be granted four per cent (4%) of the fully diluted shares of the Company post the Series A financing, and the vesting of such shares shall be subject to the terms of the EIP. The EIP will contain provisions regarding the acceleration of vesting in the event of a "Sale of the Company" (as such term is defined in the EIP).

Vacation. You will be entitled to four (4) weeks' vacation with pay per year during your employment, which vacation must be taken at a time convenient to the Company. You are expected to use your full vacation allotment each year and to not carry forward any unused vacation time from one year into the next.

Location. As President and CEO you will establish your office at the Company's offices in Toronto. For the first nine (9) months or upon successful resolution of your spouse's immigration issues, whichever is first, you will reside in a major US city on the East Coast, following which you will relocate to Toronto. During this transition period you will be available in the Toronto office 75% of your time if needed.

Immigration. To assist you in becoming eligible to work in Canada, the Company will provide you with immigration services support.

Relocation Expenses. The Company will reimburse your relocation from California to Toronto via New York City, including reasonable household moving expenses, content insurance, household incidentals and legal costs. In addition to support locating a local residence, we will cover the costs for two visits for you and your spouse including flights, hotels and meals. All expenses are intended to be cost neutral and will be capped at $100,000.00 CDN. Reimbursement of relocation expenses is conditional upon you: (i) first obtaining and submitting to the Company for its approved quotations of any relocation expense estimated to be in excess of $5,000 CDN prior to incurring any such expense; and (ii) submitting, with your reimbursement request(s), receipts or other documentation satisfactory to the Company itemizing the actual relocation costs that you incurred.

Should you resign prior to moving to Toronto or unilaterally decide not to move to Toronto, you will be required to repay to the Company all relocation expense payments that you received to that point. For clarity, if the Board decides or agrees that you are not required to move to Toronto, you will not be required to repay such relocation expense payments.

Accommodation. Until such time as you are relocated to Toronto, Turnstone will provide you with a monthly fee of $4,000.00 USD to cover out of pocket accommodation and travel expenses.

Confidentiality and Proprietary Property. As a condition of this employment offer, you are required to sign the attached Confidentiality of Information and Ownership of Proprietary Property Agreement (the "CIOPP Agreement") prior to the Start Date.

Company Policies. During your employment, you are required to familiarize yourself and operate according to any Company policies as they may be established or amended from time to time. You acknowledge and agree that such policies form part of the terms and conditions of your employment.

Termination of Employment.

The date on which your employment will end as specified in the written notice of termination of employment provided by the Company, with or without Cause, or by you, as the case may be, will be your termination date (the "Termination Date").

Termination by the Company for Cause. The Company may terminate this Agreement and your employment at any time for Cause, as defined below, without providing you with advance notice of termination, pay in lieu of such notice, or any form of severance pay, unless required by applicable employment standards legislation, including the Ontario *Employment Standards Act, 2000*, as amended or replaced all such legislation referred to as the "ESA"). The Company will only pay your Base Salary up to the date of termination and accrued vacation pay up to the date of termination or vacation pay owing under the ESA, and will comply with any obligations under the ESA.

For purposes of this Agreement, "Cause" means, the occurrence of any of the following as determined in good faith by the Board:

(a) your breach of a material term of this Agreement or the Confidentiality and Intellectual Property Agreement;

(b) your fraud or dishonesty in connection with your employment, or which otherwise adversely impacts the reputation of the Company;

(c) you or any member of your immediate family making personal profit out of or in connection with a transaction or business opportunity to which the Company is involved or otherwise associated with, without making disclosure to and seeking the prior written consent of the Company;

(d) your failure to comply with any Company rules or policies of a material nature;

(e) your willful and continued failure to substantially perform your job duties, within ten (10) calendar days of receiving written notice of such disobedience from the Company;

(f) your actions or omissions constituting gross misconduct or negligence in connection with Company business.

Termination by the Company without Cause.

(a) Separation Package. The Company may terminate your employment at any time, without Cause and without prior notice, and will provide you with a separation package equal to:

(i) the termination and severance payment required by the ESA, plus

(ii) three (3) months of Base Salary minus the amount paid under (i), plus

(iii) one (1) month of Base Salary per completed year of service.

provided that the resulting severance package shall not be more than the greater of six (6) months' Base Salary or the termination and severance pay required by the ESA (the "Separation Package"). However, if there is a "Sale of the Company", as defined in the EIP, and you are subject to termination within twelve (12) months of the Sale of the Company, the Separation Package shall be the greater of six (6) months' Base Salary or the termination and severance pay required by the ESA. The Separation Package shall be payable by means of salary continuance until the date on which the final payment owing under the Separation Package has been made (the period of time between the termination date and the date of the final payment under the Separation Package shall be known as the "Continuance Period") or you obtain alternative employment, whichever is the earlier. For the purposes of this Agreement, alternative employment shall include self-employment.

(b) Obligation to Mitigate. You shall make reasonable attempts to mitigate damages by diligently searching for alternative employment during the Continuance Period, and shall immediately notify the Company in writing once alternative employment has been obtained. You agree to promptly respond to all Company inquiries regarding your search for alternative employment.

(c) Lump Sum. In the event that you obtain alternative employment within the Continuance Period, the payments under (a) shall cease and you will be provided with a lump sum payment equivalent to the greater of (i) any unpaid termination and severance pay under the ESA, or (ii) fifty per cent (50%) of the balance of the Separation Package owing as of the date on which your alternate employment begins.

(d) Continuation of Certain Benefits. Benefits will be provided as required by the ESA. Additionally, you will continue to receive the Healthcare Stipend or, as the case may be, coverage under a Benefits Plan subject to the terms of the Benefits Plan, for the duration of the Continuance Period, or until the date on which you, begin alternate employment, whichever occurs first. Both short and long term disability benefits coverage will be discontinued as soon as permitted by the ESA.

(e) Separation Package Deemed Reasonable and Sufficient and ESA Compliance. You acknowledge that the Separation Package provided pursuant to this Agreement supersedes and replaces any and all rights to reasonable notice of termination that you might otherwise be entitled to at common law. You agree that the payments include all amounts owing for termination and/or severance pay under any contract, common law or otherwise. Except as set out above, you will not be entitled to any other allowance, vacation pay, bonus, or the issuance or vesting of stock or stock options. In all cases, the Company will fully comply with the ESA. If the business of the Company is sold and the purchaser offers you comparable employment which you fail to accept, the Separation Package will not be provided to you and your entitlement will be as set out in the ESA.

(f) Non-Disclosure. Except as required by law, you agree not to disclose the terms or the nature of Separation Package, save and except to your immediate family, legal and financial advisors, and as may be required by law.

(g) Compliance with Covenants. The Company's obligation to pay the Separation Package is conditional upon your ongoing compliance with the post-employment covenants contained in this Agreement. In the event that you breach the post-employment covenants contained in this Agreement:

(i) you will remain bound by all the terms of this Agreement;

(ii) the payments made pursuant to this Separation Package will automatically cease, and you will be required to return any payments already made pursuant to the Separation Package except as may be required to comply with the ESA;

(iii) the Company will be under no further obligation to pay to you any payments under the Separation Package subject to any payments that may be required to satisfy the ESA; and

(iv) the Company may seek injunctive or other relief.

(h) Cooperation. The Company's obligation to pay the Separation Package is conditional upon:

(i) your continued performance of your assigned duties and responsibilities in a fully satisfactory manner in accordance with the Company's expectations while actively employed with the Company. This includes co-operating with the Company at all times to ensure the efficient and amicable transition of the duties and responsibilities of your position to the successor; and

(ii) you continuing, in good faith, to be available and to provide whatever reasonable assistance may be required by the Company from time to time with respect to matters with which you were involved during your employment. The Company will reimburse you for reasonable out-of-pocket expenses incurred in connection with such assistance.

(i) Full and Final Release. The Company's obligation to pay the Separation Package is conditional upon you signing, in the presence of a witness, a full and final release in a form satisfactory to the Company, and delivering an original executed copy of the full and final release to the Company on the termination date.

(j) Effect of Non-Compliance. If you do not comply with your obligations under this Agreement or fail to execute the full and final release, you will not be entitled to the Separation Package and will instead receive only such payments and other arrangements as are required by the ESA.

Resignation. You may resign, upon giving a minimum of sixty (60) days' advance written notice to the Company (the "Resignation Period"). The Company may, at is discretion, in writing, waive in whole or in part such notice and, in such case, the Resignation Period shall end on the date selected by the Company. You will not be entitled to receive any further compensation or benefits whatsoever other than those which have accrued up to your last day of active service with the Company. During the Resignation Period:

(i) you will be expected to work and complete any transitional activities required by the Company;

(ii) the Company may at any time relieve you, in its sole discretion, from all or any of your duties and powers (which may include requiring you to perform any modified duties at such locations as the Company may require) for such periods and on such terms as it considers expedient;

(iii) the Company may require that you remain away from all or any of the Company's premises and have no business contact with all or any of the Company's agents, employees, customers, clients, distributors and suppliers;

(iv) regardless of whether or not the Company relieves you from all or any of your duties and powers, during the Resignation Period you will be paid your Base Salary, and your will continue to receive the Healthcare Stipend or, as the case may be, participate in a Benefits Plan, in accordance with this Agreement; your employment will continue and you will continue to be bound by your obligations under this Agreement (including his obligation to cooperate in transitional matters);

(v) you will keep your resignation confidential and will not disclose your resignation or any post-employment activities and will not permit any third party to disclose your resignation or post-employment activities without first obtaining written permission from the Company; and

(vi) you will be prohibited from engaging in any other employment.

For the purposes of your post-employment obligations, termination of your employment shall be deemed to occur on the last day of the Resignation Period.

You will cooperate with the Company in formulating an announcement of your departure from the Company.

Actions Required upon Termination.

(a) Resignations. In the event that your employment is terminated for any reason, you agree to resign effective on the Termination Date from any officer or directorship held with the Company, or other directorship held as a result of your employment with the Company. You shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations.

(b) Return of Company Property. You shall return to the Company at the Company's pre-approved expense and method of shipment, promptly, upon the termination of your employment, irrespective of the time, manner or cause of termination, all property used by you in the performance of your duties and all other property in your possession or control belonging to the Company or any subsidiary or associated company, including, without limitation, computer disks, company documents and copies thereof, cell phones, lap tops, PDA's and company keys.

Employee Covenants.

(a) Non-Solicitation. You agree that you shall not, without the prior written consent of the Company, during your employment and at all times following the Termination Date while you are receiving the Separation Package (collectively, the "Resignation Period"), either on your own behalf or on behalf of any other person or entity: (i) directly or indirectly solicit, direct or attempt to divert the service of or entice away any person employed by or otherwise providing services or supplies to the Company; or (ii) directly or indirectly solicit, direct or attempt to direct or divert any client, customer or prospective customer of the Company (a prospective customer shall include any entity which has been directly approached or solicited by the Company or its representatives within twelve (12) months of the Termination Date) to any competitor by direct or indirect inducement or otherwise. Your obligations contained in this paragraph shall survive the termination of this Agreement.

(b) Non-Competition. You further agree that during your employment and the Restrictive Period you will not, directly or indirectly, individually or as a consultant to, or an employee, officer, director, manager, partner, stockholder (except as a stockholder owning less than one percent (1%) of the shares of a corporation whose shares are traded on a national securities exchange) or participant in any business entity other than the Company or its affiliates, compete with, participate or engage in any business or employment that competes with the business or reasonably anticipated business of the Company of its affiliates, specifically the research, development or commercialization of Oncolytic virus vaccines for cancer affecting humans or animals (hereafter the "Business of the Company") anywhere in the United States or Canada, unless expressly approved by the Company in writing, and you will not assist any other person or organization in competing or in preparing to compete with any business or demonstrably anticipated business of the Company. Your obligations contained in this paragraph shall survive the termination of this Agreement.

(d) Non-Disparagement. You agree that you will not make at any time, either during your employment or at any time after the Termination Date, any statement or permit or authorize any statement to be made which is calculated or reasonably likely to damage the reputation or cause other damage to the Company, any subsidiary or associated company or its or their employees, officers or directors. Your obligations contained in this paragraph shall survive the termination of this Agreement.

Offer Conditional on Financing. As stated above, this offer of employment is conditional on the closing of the Versant Series A financing.

Entire Agreement. By signing this offer of employment, you agree that the terms and conditions set out in the Agreement, including the attached Intellectual Property and Confidential Information Agreement, constitutes the entire agreement between us with respect to your employment with the Company and no other representations, negotiations or conditions, either verbal or written, shall be of any force or effect except as expressly agreed to in writing between us. In particular, you acknowledge and agree that any prior employment agreements entered into between you and the Company are no longer of any force or effect.

Changes to Agreement. Modifications or amendments to this Agreement must be in writing and signed by both the Company and you. You specifically acknowledge that your continued employment shall be sufficient consideration supporting any future modifications or amendments to this Agreement.

Severability. The various parts, paragraphs, phrases and sentences in the Agreement are severable and if any paragraph, phrase, sentence or identifiable part is held to be invalid, void or unenforced by any court, tribunal or other body or person of competent jurisdiction, this shall not affect the validity or enforceability of the remaining provisions or identifiable parts.

Assignment. The rights which accrue to the Company under this Agreement shall pass on to its successors, assigns, heirs and legal representatives, including any corporation or other business organization with which the Company may merge or consolidate or to which it may transfer substantially all of its assets.

Withholding. All payments under this Agreement are in Canadian currency and shall be subject to applicable tax withholding and applicable deductions.

Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada in force in the Province of Ontario without reference to its conflicts of laws principles, and Ontario shall be the forum for any dispute arising under this Agreement.

Please indicate your agreement to these terms by signing below, returning one signed copy of this Agreement together with a signed copy of the attached Intellectual Property and Confidential Information Agreement to the Company, and retaining one copy of each agreement for your records.

Yours very truly,

Per: */s/ Jeff Courtney*
Name: Jeff Courtney
Title: President

I acknowledge that I have read and understand the terms and conditions contained in this Agreement, and that the Company has provided a reasonable opportunity for me to seek independent legal advice prior to executing this Agreement. I voluntarily accept and agree to abide by the terms of employment with the Company, as set out in this Agreement.

Dated Aug 20, 2015.

Signature: */s/ Sammy Farah*
Name: Sammy Farah

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

December 13, 2021 – Updated Offer

Via PDF Email to Venkat Ramanan [***]

Dear Venkat:

It is my pleasure to extend to you this offer of employment with Turnstone Biologics Corp. ("**Turnstone**" or the "**Company**"). We are enthusiastic about the prospect of you joining our company! The specifics of our offer to you are as follows:

1. You will be employed on a full-time basis as the Chief Financial Officer, reporting to the CEO of Turnstone. You will be expected to devote your full time, attention and efforts to the business of the Company. Your start date will be February 15, 2022 or such other date as we mutually agree ("**Start Date**").

   You will initially Work remotely with travel as required. However, you agree to relocate to report to the Company's office in San Diego, California by August 1, 2023. The Company will reimburse you for up to $75,000 (less applicable taxes and withholdings) in moving expenses (the "**Moving Expenses**"). In the event that you resign from the Company for any reason [or are terminated by the Company for Cause (as defined in Section 8 below)] on a date effective less than (1) year following any Moving Expenses payment/reimbursement, you agree that you will repay the full amount of the Moving Expenses payments/reimbursements made within the prior one (1) year.

2. Your base salary will be at the annual rate of $412,000.00 USD, less applicable taxes and withholdings, which shall be paid on a bi-monthly basis in accordance with our regular payroll schedule. You are also be eligible for an annual conditional performance bonus of 35%, less applicable taxes and withholdings, based upon a combination of individual and Company performance. You must be actively employed as of the pay-out date of any bonus in order to earn and be eligible to receive it.

3. You may participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under and subject to all provisions of the plan documents governing those programs. Please note that the Company reserves the right at any time to amend benefits, and/or to switch to a different benefit carrier or plan, and you will not have any right to compensation as a consequence. If you need details about current benefits before accepting this offer, please contact [***]

4. You will also be eligible for 20 days of vacation time per calendar year, which shall accrue on a pro-rata basis and be used in accordance with the Company's regular policies. You are also entitled to all applicable public holidays in the United states.

5. You will be eligible for paid sick time in accordance with applicable laws.

6. Subject to the approval of the Board of Directors of the Company, the Company will grant to you 1,400,000 incentive stock options (the "Options") for the purchase of common stock of the Company, at a price to be determined by the Board of Directors. The Options shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the applicable Company stock option plan and in a separate option agreement that shall be executed by you and the Company to evidence the grant of the Options. A copy of the current Equity Plan will be provided to you on your Start Date but if you wish to review it before accepting this offer, a copy will be provided on request.

7. In the event that the Company opts to terminate your employment without Cause (as defined below), the Company will provide you with the following as your sole severance benefits ("Severance Benefits"). Any Severance Benefits for which you may be eligible shall be contingent upon your signing a separation agreement (including a release of claims against the Company) and your full and continued compliance with the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement

   (a) Severance Pay. Severance pay for nine (9) months at your then regular base rate, subject to standard payroll deductions and paid in accordance with the Company's regular payroll practices.

   (b) Health Insurance. If you timely and properly elect continued group health insurance coverage pursuant to COBRA, the Company will, as an additional severance benefit, pay your COBRA premium payments sufficient to continue your group coverage at its then current level (including dependent coverage, if applicable) through nine (9) months post separation or the date that you become eligible for group health coverage.

   (c) Cause. "Cause" as used in this letter shall mean, as reasonably determined by the the Company (i) your material breach of any of the terms or representations contained in this letter or in any agreement between you and the Company or its affiliates, (ii) your conviction of, or guilty plea or no contest plea, to any criminal charge involving moral turpitude or that could reasonably be expected to have a material adverse effect on the business or affairs of the Company; (iii) your commission of any act of dishonesty, fraud, theft or embezzlement, or breach of fiduciary duty, against the Company or its affiliates; (iv) your material breach of Company policies; or (v) your willful breach of or habitual neglect of the duties of your position, or refusal to comply with any reasonable or proper direction given by or on behalf of superior officer of the Company or the Board of Directors consistent with your position.

8. As a condition of employment, you will be required to execute the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement This Agreement forms part of the terms of your employment, and many of its obligations survive and remain in effect if you leave Turnstone for any reason whatsoever. Because we understand the importance of protecting confidential information and proprietary property, we expect and direct you to honor any confidentiality and ownership of inventions/proprietary property obligations that you owe to your former employer(s) or other third parties.

9. As a condition of employment, you will be required to abide by all Company policies and procedures that shall be in effect from time to time, because we are an early stage Company, rules and policies are a work in progress. The Company reserves the right to revise, revoke, or introduce new rules and policies, as the Company may deem necessary from time to time, and you will also be required to abide by any changes in the rules and policies, once you are advised of the changes and they come into effect

10. You represent that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from entering into employment with or carrying out your responsibilities for the Company, or which is in any way inconsistent with the terms of this letter.

11. You agree to provide to the Company, within three days of your hire date, documentation of your eligibility to work in the United States, as required by the Immigration Reform and Control Act.

12. This letter shall not be construed as an agreement, either express or implied, to employ you for any stated term, and shall in no way alter the Company's policy of employment at will, under which both you and the Company remain free to end the employment relationship, for any reason, at any time, with or without cause or notice. Similarly, nothing in this letter shall be construed as an agreement, either express or implied, to pay you any compensation or grant you any benefit for the duration of or beyond the end of your employment with the Company. This letter supersedes any and all prior understandings, whether written or oral, relating to the terms of your employment.

If this letter correctly sets forth the terms under which you will be employed by the Company, please sign this letter in the space provided below, as well as the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. Please return both documents to [***] by 5:00 pm (EDT) December 15, 2021. After that date, this offer of employment will expire.

If you have any questions or need additional information, please do not hesitate to contact me. On behalf of the entire Turnstone team, we look forward to your acceptance and to you joining us.

Sincerely Yours,

/s/ Christine Blodgett
Christine Blodgett
Head of HR
Turnstone Biologics Corp.

The foregoing correctly sets forth the terms of my employment with Turnstone. I am not relying on any representations other than as set out above.

/s/ Venkat Ramanan
Venkat Ramanan

Date: December 13, 2021

Enclosures:
Nondisclosure, Assignment of Inventions and Noncompetition Agreement
Notice and Acknowledgement of Pay Rate and Payday

Exhibit 10.12

April 28, 2021

Via PDF Email

Stewart Ernest Abbot
[***]

Dear Stewart:

It is my pleasure to extend to you this offer of employment with Turnstone Biologics Corp. ("**Turnstone**" or the "**Company**"). We are enthusiastic about the prospect of you joining our company! The specifics of our offer to you are as follows:

1. You will be employed on a full-time basis as Senior Vice President, Chief Scientific Officer, reporting to Sammy Farah or such other person as the Company may designate from time to time, in the Company's soon to be determined office in Southern California. You will be expected to devote your full time, attention and efforts to the business of the Company. Your start date will be such other date as we mutually agree ("**Start Date**").

2. Your base salary will at the annual rate of $420,000 USD, less applicable taxes and withholdings, which shall be paid on a bi-monthly basis in accordance with our regular payroll schedule. You are also be eligible for an annual conditional performance bonus of 40%, less applicable taxes and withholdings, based upon a combination of individual and Company performance. You must be actively employed as of the pay-out date of any bonus in order to earn and be eligible to receive it.

3. You will be paid a one-time signing bonus in the amount of $200,000 (less applicable taxes and withholdings) with $100,000 to be paid on the first regular payroll date following the Start Date (the "**Signing Bonus**") and $100,000 to be paid on the first regular payroll date following the one-year anniversary of your Start Date. In the event that you resign from the Company for any reason or are terminated by the Company for Cause (as defined below) on a date effective less than two (2) years following either Signing Bonus payment, you agree that you will repay (no later than thirty days following the date your employment terminates) the full amount of the Signing Bonus payments made to you or on your behalf within the prior 2 years. In such event, you authorize the Company to deduct the Signing Bonus from any wages or other amounts owed to you.

4. You may participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under and subject to all provisions of the plan documents governing those programs. Please note that the Company reserves the right at any time to amend benefits, and/or to switch to a different benefit carrier or plan, and you will not have any right to compensation as a consequence. If you need details about current benefits before accepting this offer, please contact [***]

5. You will also be eligible for 20 days of vacation time per calendar year, which shall accrue on a pro-rata basis (subject to a ceiling) and be used in accordance with the Company's regular policies. You are also entitled to all applicable public holidays in the United States.

6. You will be eligible for paid sick time in accordance with applicable California law.

7. Subject to the approval of the Board of Directors of the Company, the Company will grant to you 1,253,988 (1.2 % ownership) incentive stock options (the "Options") for the purchase of common stock of the Company, at a price to be determined by the Board of Directors. The Options shall be subject to all terms, vesting schedule, limitation, restrictions and termination provisions set forth in the Turnstone Biologics Corporation 2018 Equity Incentive Plan, as it may be amended from time to time (the "Plan") and in a separate option agreement that shall be executed by you and the Company to evidence the grant of the Options, provided that the Company agrees that (a) in the event you are terminated by the Company or its successor without Cause (as defined below) within twelve (12) months following the consummation of a Change in Control (as defined in the Plan), and (2) you timely sign and do not revoke a separation agreement (including a release of claims against the Company and its successors), all Options that were unvested as of your termination date shall accelerate and be deemed fully vested. A copy of the Plan will be provided to you on your Start Date but if you wish to review it before accepting this offer, a copy will be provided on request.

8. In the event that the Company opts to terminate your employment without Cause or you opt to terminate your employment for Good Reason (in both cases as defined below), the Company will provide you with the following as your sole severance benefits ("Severance Benefits"). Any Severance Benefits for which you may be eligible shall be contingent upon your timely signing and not revoking a separation agreement (including a release of claims against the Company) and your full and continued compliance with the enclosed Nondisclosure and Assignment of Inventions Agreement.

(a) Severance Pay. Severance pay for a period of nine (9) months at your then regular base rate, subject to standard payroll deductions and paid in accordance with the Company's regular payroll practices.

(b) Health Insurance. If you timely and properly elect continued group health insurance coverage pursuant to COBRA, the Company will, to the extent permitted by law and without creating adverse tax consequences for the Company, pay your COBRA premium payments sufficient to continue your group coverage at its then current level (including dependent coverage, if applicable) through the earlier of nine (9) months post separation or the date that you become eligible for group health coverage.

For purposes of this letter:

(i) "Cause" means any of the following, as determined solely and in good faith by the Company: (A) your conviction of, or guilty plea or no contest plea to, any felony or to any criminal charge involving moral turpitude or that could reasonably be expected to have a material adverse effect on the business or affairs of the Company; (B) your commission of any act of dishonesty, fraud, theft, embezzlement, gross misconduct or breach of fiduciary duty against the Company; (C) your willful failure or perform or habitual neglect of the duties of your position, or refusal to comply with any reasonable or proper direction given by or on behalf of superior officer of the Company consistent with your position, or (D) your material failure to comply with Company policies or with your obligation under the Nondisclosure and Assignment of Inventions Agreement or any other agreement between you and the Company; provided that, in the case of (C) or (D), (1) you will have been given written notice from the Company describing in reasonable detail the occurrence of the event or circumstance which it believes constitutes Cause within 60 days of its learning of such event or circumstance, and (2) you have cured such event or circumstance within 30 days after your receipt of such notice.

(ii) "Good Reason" means any of the following, without your prior consent: (A) a material reduction in your base salary, provided that any reduction in base salary that applies to all management employees in substantially the same manner will not constitute Good Reason; (B) a material overall reduction in your duties, functions or responsibilities; (C) the Company's failure to establish a physical office within 75 miles of your current residence within 12 months of the Start Date; or (D) your permanent relocation by the Company to a work location more than 75 miles from your current residence (unless such relocation is closer to your then-current residence); provided that, in each case, (1) the Company will have been given written notice from you describing in reasonable detail the occurrence of the event or circumstance which you believe constitutes Good Reason within 60 days of you learning of such event or circumstance, (2) the Company has not cured such event or circumstance within 30 days after the Company's receipt of such notice, and (3) if such event or circumstance is not cured, you will have terminated your employment within ten days after the end of such cure period.

9. As a condition of employment, you will be required to execute the enclosed Nondisclosure and Assignment of Inventions Agreement. This Agreement forms part of the terms of your employment, and many of its obligations survive and remain in effect if you leave Turnstone for any reason whatsoever. Because we understand the importance of protecting confidential information and proprietary property, we expect and direct you to honor any confidentiality and ownership of inventions/proprietary property obligations that you owe to your former employer(s) or other third parties.

10. This offer is contingent on Turnstone's receipt of satisfactory results of reference and such other background checks as it many conduct.

11. As a condition of employment, you will be required to abide by all Company policies and procedures that shall be in effect from time to time, because we are an early stage company, rules and policies are a work in progress. The Company reserves the right to revise, revoke, or introduce new rules and policies, as the Company may deem necessary from time to time, and you will also be required to abide by any changes in the rules and policies, once you are advised of the changes and they come into effect.

12. You represent that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from entering into employment with or carrying out your responsibilities for the Company, or which is in any way inconsistent with the terms of this letter.

13. You agree to provide to the Company, within three days of your hire date, documentation of your eligibility to work in the United States, as required by the Immigration Reform and Control Act.

14. This letter is the complete, final, and entire embodiment of the agreement between you and the Company with regard to this subject matter. This letter supersedes any and all prior understandings, whether written or oral, relating to the terms of your employment with the Company or its affiliates, including, but not limited, to any agreement or understanding between you and Myst Therapeutics, Inc. (the "**Prior Agreements**"), and you agree and understand that you are not eligible for, and will not receive, any compensation or benefits pursuant to the Prior Agreements. You acknowledge and agree that your employment with the Company is at-will and this letter shall not be construed as an agreement, either express or implied, to employ you for any stated term, and shall in no way alter the Company's policy of employment at will, under which both you and the Company remain free to end the employment relationship, for any reason, at any time, with or without Cause, Good Reason or notice. Similarly, nothing in this letter shall be construed as an agreement, either express or implied, to pay you any compensation or grant you any benefit for the duration of or beyond the end of your employment with the Company.

If this letter correctly sets forth the terms under which you will be employed by the Company, please sign this letter in the space provided below, as well as the enclosed Nondisclosure and Assignment of Inventions Agreement. Please return both documents to [***]by 5:00 pm (EDT) May 3, 2021. After that date, this offer of employment will expire:

If you have any questions or need additional information, please do not hesitate to contact me. On behalf of the entire Turnstone team, we look forward to your acceptance and to you joining us.

Sincerely Yours,

/s/ Christine Blodgett

Christine Blodgett
Head of Human Resources
Turnstone Biologics Corp.

The foregoing correctly sets forth the terms of my employment with Turnstone. I am not relying on any representations other than as set out above.

/s/ Stewart Abbot Date: 07 May 2021

Name Stewart Abbot

Enclosures: Nondisclosure and Assignment of Inventions Agreement

Exhibit 10.13

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

September 18th, 2019

Via PDF Email

Saryah Azmat
[***]

Dear Saryah:

It is my pleasure to extend to you this offer of employment with Turnstone Biologics Inc. ("**Turnstone**" or the "**Company**"). We are enthusiastic about the prospect of you joining our company! The specifics of our offer to you are as follows:

1. You will be employed on a full-time basis as the Senior Vice President, Business and Corporate Dev elopement, reporting to the CEO of Turnstone in the Company's New York Office. You will be expected to devote your full time, attention and efforts to the business of the Company. Your start date will be October 14th, 2019 or such other date as we mutually agree ("**Start Date**").

2. Your base salary will be at the annual rates of $320,000 USD, less applicable taxes and withholdings, which shall be paid on a bi-monthly basis in accordance with our regular payroll schedule. You are also be eligible for an annual conditional performance bonus of 35%, less applicable taxes and withholdings, based upon a combination of individual and Company performance. You must be actively employed as of the pay-out date of any bonus in order to earn and be eligible to receive it.

   You will also receive a one-time signing bonus of $60,000 USD to be paid out in your first paycheck, less any applicable taxes. If, before the first anniversary of the Start Date, either you resign for any reason whatsoever or your employment is terminated by Turnstone for cause, then you will be required to repay a pro rata portion of the signing bonus, calculated as follows: for every full month of employment completed after the Start Date, the repayable amount will be reduced by 1/12th.

3. You may participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under and subject to all provisions of the plan documents governing those programs. Please note that the Company reserves the right at any time to amend benefits, and/or to switch to a different benefit carrier or plan, and you will not have any right to compensation as a consequence. lf you need details about current benefits before accepting this offer, please contact [***].

4. You will also be eligible for 20 days of vacation time per calendar year, which shall accrue on a pro-rata basis and be used in accordance with the Company's regular policies. You are also entitled to all applicable public holidays in the United States.

5. In accordance with New York City law, you are also entitled to 5 total days of paid sick leave per calendar year. Unused sick leave does not carry over from year to year. Paid sick leave can be used for the following reasons: (1) care of your own or a family member's mental or physical illnesses, injuries, health conditions, or seeking medical diagnosis, treatment, or preventative medical care; (2) care of a child whose school or childcare provider is ordered closed because of a public health emergency; or (3) closure of the office due to a public health emergency.

6. Subject to the start of your employment with the Company, the Company will grant to you 987,123 incentive stock options (the "Options") for the purchase of common stock of the Company (representing one percent (1.0%) of the Company's issued and outstanding equity securities as of the date of issuance on a fully diluted basis), at a price to be determined by the Board of Directors. The Options shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the applicable Company stock option plan and in a separate option agreement that shall be executed by you and the Company evidence the grant of the Options. A copy of the current Equity Plan will be provided to you on your Start Date but if you wish to review it before accepting this offer, a copy will be provided on request.

7. To assist you in your transition to New York City, we will provide you with a bonus (*"Relocation Bonus")* of $40,000.00 to be paid as expenses with accompanying receipts. If, before the first anniversary of the Start Date, either you resign for any reason whatsoever or your employment is terminated by Turnstone for cause, then you will be required to repay a pro rata portion of the Relocation Bonus, calculated as follows: for every full month of employment completed after the Start Date, the repayable amount will be reduced by $1/12^{th}$.

8. As a condition of employment, you will be required to execute the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. This Agreement forms part of the terms of your employment, and many of its obligations survive and remain in effect if you leave Turnstone for any reason whatsoever. Because we understand the importance of protecting confidential information and proprietary property, we expect and direct you to honor any confidentiality and ownership of inventions/proprietary property obligations that you owe to your former employer(s) or other third parties.

9. As a condition of employment, you will be required to abide by all Company policies and procedures that shall be in effect from time to time, because we are an early stage company, rules and policies are a work in progress. The Company reserves the right to revise, revoke, or introduce new rules and policies, as the Company may deem necessary from time to time, and you will also be required to abide by any changes in the rules and policies, once you are advised of the changes and they come into effect.

10. You represent that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from entering into employment with or carrying out your responsibilities for the Company, or which is in any way inconsistent with the terms of this letter.

11. You agree to provide to the Company, within three days of your hire date, documentation of your eligibility to work in the United States, as required by the Immigration Reform and Control Act.

12. This letter shall not be construed as an agreement, either express or implied, to employ you for any stated term, and shall in no way alter the Company's policy of employment at will, under which both you and the Company remain free to end the employment relationship, for any reason, at any time, with or without cause or notice. Similarly, nothing in this letter shall be construed as an agreement express or implied, to pay you any compensation or grant you any benefit for the duration of or beyond the end of your employment with the Company. This letter supersedes any and all prior understandings, whether written or oral, relating to the terms of your employment.

If this letter correctly sets forth the terms under which you will be employed by the Company, please sign this letter in the space provided below, as well as the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. Please return both documents to [***]by 5:00 pm (EDT) September 20th, 2019. After that date, this offer of employment will expire.

If you have any questions or need additional information, please do not hesitate to contact me. On behalf of the entire Turnstone team, we look forward to your acceptance and to you joining us.

Sincerely Yours,

/s/ Kristin Gustafson
Kristin Gustafson
SVP, HR and Facilities
Turnstone Biologics Inc.

The foregoing correctly sets forth the terms of my employment with Turnstone. I am not relying on any representations other than as set out above.

/s/ Saryah Azmat Date: 09/18/2019
Name

Enclosures: Nondisclosure, Assignment of Inventions and Noncompetition Agreement

[***]

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

Want July 16, 2021 – Updated

Via PDF Email to Joseph Campisi [***]

Dear Joseph:

It is my pleasure to extend to you this offer of employment with Turnstone Biologics Corp. ("**Turnstone**" or the "**Company**"). We are enthusiastic about the prospect of you joining our company! The specifics of our offer to you are as follows:

1. You will be employed on a full-time basis as the Senior Vice President and General Counsel, reporting to the CEO of Turnstone. You will be expected to devote your full time, attention and efforts to the business of the Company. Your start date will be August 2, 2021 or such other date as we mutually agree ("**Start Date**").

   You will initially report to the Company's office in New York City. However, you agree to relocate to report to the Company's office in San Diego, California by June 30, 2022. The Company will reimburse you for up to $75,000 (less applicable taxes and withholdings) in moving expenses (the "**Moving Expenses**"). In the event that you resign from the Company for any reason [or are terminated by the Company for Cause (as defined in Section 8 below)] on a date effective less than (1) year following any Moving Expenses payment/reimbursement, you agree that you will repay the full amount of the Moving Expenses payments/reimbursements made within the prior one (1) year.

2. Your base salary will be at the annual rate of $400,000.00 USD, less applicable taxes and withholdings, which shall be paid on a bi-monthly basis in accordance with our regular payroll schedule. You are also be eligible for an annual conditional performance bonus of 35%, less applicable taxes and withholdings, based upon a combination of individual and Company performance. You must be actively employed as of the pay-out date of any bonus in order to earn and be eligible to receive it.

3. You will be paid a one-time signing bonus in the amount of $70,000 (less applicable taxes and withholdings) to be paid on the first regular payroll date following the Start Date (the "**Signing Bonus**"). In the event that you resign from the Company for any reason on a date effective less than one (1) year following the Signing Bonus payment, you agree that you will repay the full amount of the Signing Bonus payment. In such event, you authorize the Company to deduct the Signing Bonus from any wages or other amounts owed to you.

4. You may participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under and subject to all provisions of the plan documents governing those programs. Please note that the Company reserves the right at any time to amend benefits, and/or to switch to a different benefit carrier or plan, and you will not have any right to compensation as a consequence. If you need details about current benefits before accepting this offer, please contact

5. You will also be eligible for 20 days of vacation time per calendar year, which shall accrue on a pro-rata basis and be used in accordance with the Company's regular policies. You are also entitled to all applicable public holidays in the United states.

6. In accordance with New York City law, you are also entitled to five total days of paid sick leave per calendar year. Up to five days of unused sick leave carries over from year to year, but sick leave is not paid out upon termination of employment. Paid sick leave can be used for the following reasons: (1) care of your own or a family member's mental or physical illnesses, injuries, health conditions, or seeking medical diagnosis, treatment, or preventative medical care; (2) care of a child whose school or child care provider is ordered closed because of a public health emergency; or (3) closure of the office due to a public health emergency.

7. Subject to the approval of the Board of Directors of the Company, the Company will grant to you 915,525 incentive stock options (the "Options") for the purchase of common stock of the Company, at a price to be determined by the Board of Directors. The Options shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the applicable Company stock option plan and in a separate option agreement that shall be executed by you and the Company to evidence the grant of the Options. A copy of the current Equity Plan will be provided to you on your Start Date but if you wish to review it before accepting this offer, a copy will be provided on request.

8. In the event that the Company opts to terminate your employment without Cause (as defined below), the Company will provide you with the following as your sole severance benefits ("Severance Benefits"). Any Severance Benefits for which you may be eligible shall be contingent upon your signing a separation agreement (including a release of claims against the Company) and your full and continued compliance with the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement

   (a) Severance Pay. Severance pay for nine (9) months at your then regular base rate, subject to standard payroll deductions and paid in accordance with the Company's regular payroll practices.

   (b) Health Insurance. If you timely and properly elect continued group health insurance coverage pursuant to COBRA, the Company will, as an additional severance benefit, pay your COBRA premium payments sufficient to continue your group coverage at its then current level (including dependent coverage, if applicable) through nine (9) months post separation or the date that you become eligible for group health coverage.

   (c) Cause. "Cause" as used in this letter shall mean, as reasonably determined by the the Company (i) your material breach of any of the terms or representations contained in this letter or in any agreement between you and the Company or its affiliates, (ii) your conviction of, or guilty plea or no contest plea, to any criminal charge involving moral turpitude or that could reasonably be expected to have a material adverse effect on the business or affairs of the Company; (iii) your commission of any act of dishonesty, fraud, theft or embezzlement, or breach of fiduciary duty, against the Company or its affiliates; (iv) your material breach of Company policies; or (v) your willful breach of or habitual neglect of the duties of your position, or refusal to comply with any reasonable or proper direction given by or on behalf of superior officer of the Company or the Board of Directors consistent with your position.

9. As a condition of employment, you will be required to execute the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement This Agreement forms part of the terms of your employment, and many of its obligations survive and remain in effect if you leave Turnstone for any reason whatsoever. Because we understand the importance of protecting confidential information and proprietary property, we expect and direct you to honor any confidentiality and ownership of inventions/proprietary property obligations that you owe to your former employer(s) or other third parties.

10. As a condition of employment, you will be required to abide by all Company policies and procedures that shall be in effect from time to time, because we are an early stage Company, rules and policies are a work in progress. The Company reserves the right to revise, revoke, or introduce new rules and policies, as the Company may deem necessary from time to time, and you will also be required to abide by any changes in the rules and policies, once you are advised of the changes and they come into effect

11. You represent that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from entering into employment with or carrying out your responsibilities for the Company, or which is in any way inconsistent with the terms of this letter.

12. You agree to provide to the Company, within three days of your hire date, documentation of your eligibility to work in the United States, as required by the Immigration Reform and Control Act.

13. This letter shall not be construed as an agreement, either express or implied, to employ you for any stated term, and shall in no way alter the Company's policy of employment at will, under which both you and the Company remain free to end the employment relationship, for any reason, at any time, with or without cause or notice. Similarly, nothing in this letter shall be construed as an agreement, either express or implied, to pay you any compensation or grant you any benefit for the duration of or beyond the end of your employment with the Company. This letter supersedes any and all prior understandings, whether written or oral, relating to the terms of your employment.

If this letter correctly sets forth the terms under which you will be employed by the Company, please sign this letter in the space provided below, as well as the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. Please return both documents [***]by 5:00 pm (EDT) July 22, 2021. After that date, this offer of employment will expire.

If you have any questions or need additional information, please do not hesitate to contact me. On behalf of the entire Turnstone team, we look forward to your acceptance and to you joining us.

Sincerely Yours,

/s/ Christine Blodgett

Christine Blodgett
Head of HR
Turnstone Biologics Corp.

The foregoing correctly sets forth the terms of my employment with Turnstone. I am not relying on any representations other than as set out above.

/s/ P. Joseph Campisi, Jr.
P. Joseph Campisi, Jr. Date: July 16, 2021

Enclosures:

Nondisclosure, Assignment of Inventions and Noncompetition Agreement

Notice and Acknowledgement of Pay Rate and Payday

April 30, 2021

Michael Burgess
VIA E-MAIL

TURNSTONE EXECUTIVE DIRECTOR OFFER LETTER

Dear Michael:

On behalf of Turnstone Biologics Corp. (the "***Company***"), we would like to invite you to join the Company's Board of Directors (the "***Board***") by serving as an Executive Director, in which role you will also serve in the newly formed role of Executive Chairman of R&D, where you will initially act as Chair of the Science and Technology Committee of the Board (the "***S&T Committee***"), as Chair of the Company's Scientific Advisory Board (the "***SAB***"), as an advisor to the senior management of the Company including senior members of the Company's research and development team, and participate in limited external interactions associated with the Company's financing activities. If you are willing to accept this position, then we would promptly seek Board and stockholder approval of this role.

In terms of interacting with Company personnel, we would anticipate that you would be available for quarterly Board meetings, quarterly S&T Committee meetings, annual SAB meetings, and other Board calls as necessary, and to provide advisory services to the Company, including monthly meetings with and periodic calls or emails from Company executives and advisors as needed. We also anticipate that you would assist with the onboarding and integration of a new Chief Scientific Officer of the Company. We would plan to list you on corporate materials and on our website as an Executive Director of the Board.

The terms of the offer (the "***Agreement***") are described below. This Agreement will be effective as of May 10, 2021 (the "***Effective Date***"), subject to Board and stockholder approval.

1. Duties. We anticipate that, in addition to your service on the Board, you would commit up to 12 hours per month to your duties as Executive Director, as the role would require direct involvement in providing strategic advice to the Company to advance our R&D strategy to maximally leverage the Company's assets. You would also actively engage and communicate with the Board, CEO, executive team, R&D leadership, and potential strategic counterparties and investors, as appropriate.

2. Compensation. In recognition of the efforts that this role would entail, and in consideration for your service as a member of the Board, if elected, you would be paid a stipend of $50,000 per year, paid on a quarterly basis. As a member of the Board, you will, of course, be reimbursed for reasonable travel and other costs incurred for attending each meeting and conducting Company business. Turnstone agrees to pay a prorated 2021 Performance Bonus in Q1 of 2022 in alignment with the payout of the rest of the organization.

3. Stock Options. You acknowledge and agree that, as of the Effective Date, you hold options to purchase (i) up to 697,757 shares of the Company's Common Stock ("***Common Stock***") pursuant to the Turnstone Biologics Inc. Amended and Restated Equity Incentive Plan (the "2016 Plan"), of which 72,683 are unvested as of the Effective Date (the "***Unvested 2016 Options***"), and (ii) up to 782,936 shares of Common Stock pursuant to the Company's 2018 Equity Incentive Plan (the "2018 Plan"), of which 424,091 are unvested as of the Effective Date (the "***Unvested 2016 Options***"). The Company hereby confirms that you will remain a "***Participant***" under the 2016 Plan throughout your transition to Executive Director and that your transition to Executive Director constitutes, and will be treated by the Company as, "***Continuous Service***" for purposes of the 2018 Plan. As a result, the options you hold will not be cancelled as a result of your transition to Executive Director, and the options shall continue to vest and become exercisable in accordance with the terms of the 2016 Plan and 2018 Plan. As a condition of entering into this Agreement, you agree that, notwithstanding anything to the contrary in the 2016 Plan, the 2018 Plan, or in any option grant agreement or other agreement between you and the Company: (a) the Unvested 2016 Options shall vest and become exercisable in a series of 48 successive equal monthly installments measured from the Effective Date, and (b) the Unvested 2018 Options shall vest and become exercisable in a series of 48 successive equal monthly installments measured from the Effective Date, in each case subject to your Continuous Service (as defined in the 2018 Plan) as of each such date. Any further grants of stock, stock options and any other benefits granted to you for service on the Board will be provided to you contingent upon active membership and participation in the Board. Should your Continuous Service terminate for any reason, all stock options held by you will terminate in accordance with the 2016 Plan or 2018 Plan, as applicable. The exception to this being that if the Company terminates this agreement and this event occurs within the first year following the effective date of the agreement then all vested options may be exercised within 15 months of the date of this agreement. Unvested share options will immediately cease to vest as vesting is subject to Continuous Service.

4. Ownership of Work Product. You hereby irrevocably assign, grant and convey to the Company all right, title and interest now existing or that may exist in the future in and to any document, development, work product, know-how, design, processes, invention, technique, trade secret, or idea, and all intellectual property rights related thereto, that is created by you, to which you contribute, or which relates to your services as a director (the "***Work Product***"), including all copyrights, trademarks and other intellectual property rights (including but not limited to patent rights) relating thereto. You further agree to assist the Company in every proper way to enforce its rights relating to the Work Product in any and all countries, including, but not limited to, executing, verifying and delivering such documents and performing such other acts (including appearing as a witness) as the Company may reasonably request for use in obtaining, perfecting, evidencing, sustaining and enforcing Company's rights relating to the Work Product.

5. Artist's, Moral and Other Rights. If you have any rights, including without limitation "artist's rights" or "moral rights," in the Work Product which cannot be assigned (the "***Non-Assignable Rights***"), you agree to waive enforcement worldwide of such rights against the Company. In the event that you have any such rights that cannot be assigned or waived, you hereby grant to the Company a royalty-free, paid-up, exclusive, worldwide, irrevocable, perpetual license under the Non-Assignable Rights to (a) use, make, sell, offer to sell, have made, and further sublicense the Work Product, and (b) reproduce, distribute, create derivative works of, publicly perform and publicly display the Work Product in any medium or format, whether now known or later developed.

6. Representations and Warranties. You represent and warrant that: (a) you have the full right and authority to enter into this Agreement and serve the Company in the capacity of Executive Director; (b) you have the right and unrestricted ability to assign the Work Product to the Company as set forth in Sections 4 and 5; (c) the Work Product has not heretofore been published in its entirety; and (d) the Work Product will not infringe upon any copyright, patent, trademark, right of publicity or privacy, or any other proprietary right of any person, whether contractual, statutory or common law.

7. Director Relationship. You acknowledge that you are a director and not an employee of the Company. Nothing in this Agreement is intended to, or should be construed to, create a partnership, agency, joint venture or employment relationship. As Executive director, you acknowledge that you will be solely responsible to pay any and all local, state, and/or federal income, social security and unemployment taxes related to your compensation hereunder. The Company will not withhold any taxes or prepare W-2 Forms for you, but will provide you with a Form 1099, if required by law. The Company will regularly report amounts paid to you with the appropriate taxing authorities, as required by law.

8. No Employee Benefits. You acknowledge and agree that you shall not receive any employee benefits of any kind from the Company. You are excluded from participating in any fringe benefit plans or programs as a result of the performance of services under this Agreement. You specifically waive any and all rights, if any, to participation in any of the Company's fringe benefit plans or programs including, but not limited to, health, sickness, accident or dental coverage, life insurance, disability benefits, severance, accidental death and dismemberment coverage, unemployment insurance coverage, workers' compensation coverage, and pension or 401(k) benefit(s) provided by the Company to its employees.

9. No Conflict of Interest. You acknowledge your obligations to the Company and agree that during the period that you serve as Executive Director, you will not accept work, enter into a contract, or provide services to any third party that provides products or services which compete with the products or services provided by the Company. You also agree not to enter into any agreement or perform any services which would conflict or interfere with your obligations to the Company. You warrant that you are not party to any other contract that prevent or impede your ability to serve as Executive Director.

10. Confidential Information. You agree to hold the Company's Confidential Information (as defined below) in strict confidence and not to disclose such Confidential Information to any third parties. You also agree not to use any of Company's Confidential Information for any purpose other than performance of your duties as Executive Director. "***Confidential Information***" as used in this Agreement shall mean all information

disclosed by the Company to you, or otherwise, regarding Company or its business obtained by you that is not generally known in the Company's trade or industry and shall include, without limitation: (a) concepts and ideas relating to the development and distribution of content in any medium or to the current, future and proposed products or services of the Company or its subsidiaries or affiliates; (b) trade secrets, drawings, inventions, know-how, software programs, and software source documents; (c) information regarding plans for research, development, new service offerings or products, marketing and selling, business plans, business forecasts, budgets and unpublished financial statements, licenses and distribution arrangements, prices and costs, suppliers and customers; and (d) any information regarding the skills and compensation of employees, contractors or other agents of the Company or its subsidiaries or affiliates. Confidential Information also includes proprietary or confidential information of any third party who may disclose such information to the Company or you in the course of Company's business. Your obligations set forth in this Section shall not apply with respect to any portion of the Confidential Information that you can document by competent proof that such portion: (i) is in the public domain through no fault of yours; (ii) has been rightfully independently communicated to you free of any obligation of confidence; or (iii) was developed by you independently of and without reference to any information communicated to you by Company. In addition, you may disclose the Company's Confidential Information in response to a valid order by a court or other governmental body, as otherwise required by law. All Confidential Information furnished to you by Company is the sole and exclusive property of Company or its suppliers or customers. Nothing in this Agreement shall limit your right to report possible violations of law or regulation to any federal government agency or similar state or local agency. Pursuant to 18 U.S.C. Section 1833(b), you shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that: (1) is made in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney, and solely for the purpose of reporting or investigating a suspected violation of law; or (2) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

11. Personal Information. With respect to any Confidential Information that constitutes personal data, personal information, personally identifiable information or similar information under applicable privacy or data security laws (collectively, "***Personal Information***"), you agree you will not (x) sell Personal Information or (y) retain, use or disclose Personal Information for any purpose other than the specific purpose of fulfilling your obligations hereunder. For the avoidance of doubt, the foregoing prohibits you from "selling" Personal Information, as defined in the California Consumer Privacy Act of 2018 (as amended, the "***CCPA***"), and from retaining, using, or disclosing Personal Information outside of the direct business relationship between you and Company or for a "commercial purpose" (as defined in the CCPA). You hereby certify that you understand the obligations under this Section 11 and will comply with them. You shall use reasonable security measures appropriate to the nature of any Personal Information in your possession or control to protect the Personal Information from unauthorized access, destruction, use, modification, or disclosure. You and the Company acknowledge and agree that your access to Personal Information is not part of the consideration exchanged by the parties in respect of the Agreement. If any individual contacts you to make a request pertaining to their

Personal Information, you shall promptly forward the request to the Company and shall not respond to the individual except as instructed by Company. You shall promptly take such actions and provide such information as Company may request to help Company fulfill requests of individuals to exercise their rights under the applicable privacy or data security laws, including, without limitation, requests to access, delete, opt-out of the sale of, or receive information about the processing of, Personal Information pertaining to them. You agree to cooperate with Company to further amend the Agreement as may be necessary to address compliance with applicable privacy or data security laws.

12. Solicitation. You agree that during the term of this Agreement and for one year thereafter, you will not encourage or solicit any employee or consultant of Company to leave Company for any reason.

13. Section 409A.

a. Notwithstanding anything to the contrary herein, the following provisions apply to the extent benefits provided herein are subject to Section 409A of the Internal Revenue Code (the "***Code***") and the regulations and other guidance thereunder and any state law of similar effect (collectively "***Section 409A***"). Such benefits shall not commence until you have a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h), without regard to any alternative definition thereunder, a "separation from service"). Each installment of payments hereunder is a separate "payment" for purposes of Treas. Reg. Section 1.409A-2(b)(2)(i), and such payments are intended to satisfy the exemptions from application of Section 409A provided under Treasury Regulations Sections 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9). However, if such exemptions are not available and you are, upon separation from service, a "specified employee" for purposes of Section 409A, then, solely to the extent necessary to avoid adverse personal tax consequences under Section 409A, the timing of the payments shall be delayed until the earlier of (i) six (6) months and one day after your separation from service, or (ii) your death. The parties acknowledge that the exemptions from application of Section 409A are fact specific, and any later amendment of this Agreement to alter the timing, amount or conditions that will trigger payment of benefits may preclude the ability of benefits provided under this Agreement to qualify for an exemption.

b. It is intended that this Agreement shall comply with the requirements of Section 409A, and any ambiguity contained herein shall be interpreted in such manner so as to avoid adverse personal tax consequences under Section 409A. Notwithstanding the foregoing, the Company shall in no event be obligated to indemnify you for any taxes or interest that may be assessed by the Internal Revenue Service pursuant to Section 409A of the Code to payments made pursuant to this Agreement.

14. Section 280G; Limitations on Payment.

a. If any payment or benefit you will or may receive from the Company or otherwise under this Agreement (a "***280G Payment***") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "***Excise Tax***"), then any such 280G Payment provided pursuant to this Agreement (a "***Payment***") shall be equal to the Reduced Amount. The "Reduced Amount" shall be either (x) the largest portion of the Payment that would result in no portion of the Payment (after reduction) being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount (i.e., the amount determined by clause (x) or by clause (y)), after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in your receipt, on an after-tax basis, of the greater economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in a Payment is required pursuant to the preceding sentence and the Reduced Amount is determined pursuant to clause (x) of the preceding sentence, the reduction shall occur in the manner (the "***Reduction Method***") that results in the greatest economic benefit for you. If more than one method of reduction will result in the same economic benefit, the items so reduced will be reduced pro rata (the "***Pro Rata Reduction Method***").

b. Notwithstanding any provision of Section 11(a) to the contrary, if the Reduction Method or the Pro Rata Reduction Method would result in any portion of the Payment being subject to taxes pursuant to Section 409A that would not otherwise be subject to taxes pursuant to Section 409A, then the Reduction Method and/or the Pro Rata Reduction Method, as the case may be, shall be modified so as to avoid the imposition of taxes pursuant to Section 409A as follows: (A) as a first priority, the modification shall preserve to the greatest extent possible, the greatest economic benefit for you as determined on an after-tax basis; (B) as a second priority, Payments that are contingent on future events (e.g., being terminated without Cause), shall be reduced (or eliminated) before Payments that are not contingent on future events; and (C) as a third priority, Payments that are "deferred compensation" within the meaning of Section 409A shall be reduced (or eliminated) before Payments that are not deferred compensation within the meaning of Section 409A.

c. Unless you and the Company agree on an alternative accounting firm or law firm, the accounting firm engaged by the Company for general tax compliance purposes as of the day prior to the effective date of the change in control transaction shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the change in control transaction, the Company shall appoint a nationally recognized accounting or law firm to make the determinations required by this Section 11. The Company shall bear all expenses with respect to the determinations by such accounting or law firm required to be made hereunder.

d. If you receive a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 11(a) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, you agree to promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 11(a)) so that no portion of the remaining Payment is subject to the Excise Tax. For the avoidance of doubt, if the Reduced Amount was determined pursuant to clause (y) of Section 11(a), you shall have no obligation to return any portion of the Payment pursuant to the preceding sentence.

15. Term and Termination. You shall continue to serve on the Board from the time of your appointment to the Board until the date upon which you are not reelected by the stockholders of the Company or upon your earlier removal or resignation. Upon such removal, resignation or lack of reelection, this Agreement shall immediately terminate. In addition, either party may terminate the engagement and this Agreement at any time upon not less than thirty (30) days' prior written notice, for any or no reason, with or without cause. Upon any termination or expiration of this Agreement, you (i) shall resign from the Board, the S&T Committee and the SAB (if you have not previously resigned) unless otherwise requested by the Company in writing; (ii) shall immediately discontinue all use of the Company's Confidential Information delivered under this Agreement; (iii) shall delete any such Confidential Information of the Company from your computer storage or any other media, including, but not limited to, online and off-line libraries; and (iv) shall return to the Company, or, at the Company's option, destroy, all copies of such Confidential Information then in your possession. In the event either party terminates this Agreement, you will not receive any additional consulting fees or other compensation as of the date of termination. In the event that the Company terminates this Agreement and requests in writing that you do not resign from the Board, the Company expects that (i) you would receive compensation for your service on the Board commensurate with other non-executive, independent members of the Board, who are currently compensated at the rate of $30,000 per year, and (ii) any unvested options held by you would continue to vest in accordance with their terms as a result of your Continuous Service as a director after such termination.

16. Insurance. The Company has in place customary Directors and Officers insurance and so naturally you will be covered by this policy as Executive Director.

17. Indemnification Agreement. The Company will provide you with indemnification pursuant to its standard form of indemnification agreement, which is also included with this letter. This agreement will be effective as of the Effective Date. You will also be covered under any directors and officers insurance policy obtained by the Company.

18. Miscellaneous. This Agreement and the duties performed hereunder are personal to you and you do not have the right or ability to assign, transfer or subcontract any obligations under this Agreement without the written consent of Company. Any attempt to do so will be void. Any breach of Sections 4, 5, 10, 11 or 12 will cause irreparable harm to the Company for which damages would not be an adequate remedy, and therefore, Company will be entitled to injunctive relief with respect thereto in addition to any other remedies. This, along with the Separation Agreement, is the entire agreement between the parties with respect to the subject matter hereof and no changes or modifications or waivers to this Agreement will be effective unless in writing and signed by both parties. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or

any electronic signature complying with the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act or other applicable law) or other transmission method and any counterpart so delivered will be deemed to have been duly and validly delivered and be valid and effective for all purposes. In the event that any provision of this Agreement is determined to be illegal or unenforceable, that provision will be limited or eliminated to the minimum extent necessary so that this Agreement will otherwise remain in full force and effect and enforceable. This Agreement is governed by and construed in accordance with the laws of the State of Delaware without regard to the conflicts of law provisions thereof. In any action or proceeding to enforce rights under this Agreement, the prevailing party will be entitled to recover costs and attorneys' fees. Any notice will be given in writing by first class mail, fax or electronic mail and addressed to the party to be notified at the address below, or at such other address, fax number or e-mail address as the party may designate by 10 days' advance written notice to the other party.

We look forward to your role on the Board. Should you have any questions with respect to this opportunity or the terms in this letter, please feel free to contact me. Otherwise, please indicate your acceptance of the terms and conditions set forth in this letter by signing in the space provided below and returning one executed copy of this letter to me at your earliest convenience.

Sincerely,

TURNSTONE BIOLOGICS CORP.

By: */s/ Sammy Farah* 02-May-2021
Name: Sammy Farah
Title: President and Chief Executive Officer

ACCEPTED AND AGREED:

/s/ Michael Burgess
Michael Burgess

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

February 22, 2022 – *Updated start date (2), severance terms (7) and outside affiliations (13) March 1, 2022 – Updated start date (2) and bonus payout eligibility (4)*

Via PDF Email
Michael Burgess
[***]

Dear Michael:

It is my pleasure to extend to you this offer of employment with Turnstone Biologics Corp. ("**Turnstone**" or the "**Company**"). We are enthusiastic about the prospect of you joining our company! The specifics of our offer to you are as follows:

1. You will be employed on a full-time interim basis as the Chief Medical Officer ("**CMO**"), reporting to the CEO of Turnstone. You will be expected to devote your full time, attention and efforts to the business of the Company. You will generally work remotely from your home in Arizona, but will be expected to travel as necessary for business reasons and to maintain the ability to travel at all times.

2. Your start date will be March 14, 2022 or such other date as we mutually agree ("**Start Date**"). Your role as interim CMO and employment with the Company is anticipated to last for an initial term of twelve (12) months (the "**Initial Term**"), and will thereafter automatically renew for successor terms of 12 months each ("**Successor Terms**") unless either party gives written notice of termination at least ninety (90) days in advance of the commencement of any Successor Term. The Initial Term and all Successor Terms are collectively referred to herein as the "**Term**." The Term may be terminated by either party at any time, subject to the provisions of Section 7 below.

3. Your base salary during the Term will be at the annual rate of $475,000 USD, less applicable taxes and withholdings, which shall be paid on a bi-monthly basis in accordance with our regular payroll schedule. For each calendar year during the Term, you will be eligible for an annual conditional performance bonus of up to 40% of your base salary, less applicable taxes and withholdings, based upon a combination of individual and Company performance. Your bonus will not be prorated for 2022, except as set forth in Section 7(i)(c) below. Annual bonuses will be paid no later than March 15th of the year following the year to which they pertain. You must be employed as of the payout date of any bonus in order to be eligible to receive it, except as set forth in Section 7(i)(c) below or in circumstances where your contract is not automatically renewed on March 13th of a given year—for example, if your contract is not renewed after the initial term which ends on March 13, 2023, you remain eligible for the annual bonus to be paid no later than March 15, 2023 for the 2022 performance year.

4. During the Term you may participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under and subject to all provisions of the plan documents governing those programs. Please note that the Company reserves the right at any time to amend benefits, and/or to switch to a different benefit carrier or plan, and you will not have any right to compensation as a consequence. If you need details about current benefits before accepting this offer, please contact [***]

5. You will also be eligible for 20 days of vacation time per calendar year during the Term, which shall accrue on a pro-rata basis and be used in accordance with the Company's regular policies. You are also entitled to all applicable public holidays in the United States.

6. Subject to the approval of the Board of Directors of the Company, the Company will grant to you 200,000 incentive stock options (the "**Options**") for the purchase of common stock of the Company, at a price to be determined by the Board of Directors. The Options shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the applicable Company stock option plan and in a separate option agreement that shall be executed by you and the Company to evidence the grant of the Options. A copy of the current Equity Plan will be provided to you on your Start Date but if you wish to review it before accepting this offer, a copy will be provided on request.

7. This letter shall not be construed as an agreement, either express or implied, to employ you for any stated term, and shall in no way alter the Company's policy of employment at will, under which both you and the Company remain free to end the employment relationship, for any reason, at any time, with or without Cause. However, you and the Company agree that:

   (i) You and the Company do not intend to terminate your employment during the Initial Term. However, in the event that the Company opts to terminate your employment without Cause (as defined below) during the Initial Term, the Company will provide you with the following severance benefits ("**Severance Benefits**"):

(a) Severance Pay. Severance pay at your then regular base rate, subject to standard payroll deductions and paid in accordance with the Company's regular payroll practices, for the remainder of the Term.

(b) Health Insurance. If you timely and properly elect continued group health insurance coverage pursuant to COBRA, the Company will, as an additional severance benefit, pay your COBRA premium payments sufficient to continue your group coverage at its then current level (including dependent coverage, if applicable) through the earlier of the conclusion of the Term or the date that you become eligible for new group health coverage.

(c) Bonus Payment. Any bonus earned for 2022 that has not yet been paid to you, to be paid on the regular payout date applicable to active employees receiving such bonuses. Such bonus shall be pro-rated in the event your termination date falls during 2022, to reflect the portion of 2022 after your termination date during which you were not employed.

Severance Benefits shall be contingent upon your signing a separation agreement (including a release of claims against the Company) and your full and continued compliance with the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement.

(ii) In the event you or the Company terminate your employment at any time for any reason during a Successor Term (or you terminate your employment for any reason during the Initial Term), you and the Company agree to provide not less than three (3) months' written advance notice of such termination to the other party. The Company shall have the right to accelerate the termination of your employment, in its sole discretion, at any time during any such three-month notice period, so long as it continues to pay your base salary for the duration of such notice period and to pay any bonus you would have been paid for the prior calendar year had you remained employed during such notice period.

(iii) The Company shall have the right to terminate your employment for Cause at any time during the Term, without any notice or severance obligations.

"Cause" as used in this letter shall mean, as reasonably determined by the Company: (i) your material breach of any of the terms or representations contained in this letter or in any agreement between you and the Company or its affiliates; (ii) your death, or a disability resulting in an inability to perform your job duties for a period of at least 90 consecutive or non-consecutive days; (iii) your conviction of, or guilty plea or no contest plea, to any criminal charge involving moral turpitude or that could reasonably be expected to have a material adverse effect on the business or affairs of the Company; (iv) your commission of any act of dishonesty, fraud, theft or embezzlement, or breach of fiduciary duty, against the Company or its affiliates; (v) your material breach of Company policies; or (vi) your willful breach of or habitual neglect of the duties of your position, or refusal to comply with any reasonable or proper direction given by or on behalf of superior officer of the Company or the Board of Directors consistent with your position.

8. As a condition of employment, you will be required to execute the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. This Agreement forms part of the terms of your employment, and many of its obligations survive and remain in effect if you leave Turnstone's employ for any reason whatsoever. Because we understand the importance of protecting confidential information and proprietary property, we expect and direct you to honor any confidentiality and ownership of inventions/proprietary property obligations that you owe to your former employer(s) or other third parties.

9. As a condition of employment, you will be required to abide by all Company policies and procedures that shall be in effect from time to time, because we are an early stage company, rules and policies are a work in progress. The Company reserves the right to revise, revoke, or introduce new rules and policies, as the Company may deem necessary from time to time, and you will also be required to abide by any changes in the rules and policies, once you are advised of the changes and they come into effect.

10. You represent that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from entering into employment with or carrying out your responsibilities for the Company, or which is in any way inconsistent with the terms of this letter.

11. You agree to provide to the Company, within three days of your hire date, documentation of your eligibility to work in the United States, as required by the Immigration Reform and Control Act.

12. You will continue to serve on the Company's Board of Directors, pursuant and subject to the terms of your existing Executive Director Offer Letter dated April 30, 2021 (the "**Director Agreement**"), except that during the Term, you will no longer be obligated to provide the services set forth in Section 1 of the Director Agreement, and you will not receive the compensation set forth in the first sentence of Section 2 or in Section 15 of the Director Agreement. Except as expressly set forth in the prior sentence, your rights and obligations under this letter shall be in addition to, and not in lieu of, those under that Director Agreement.

13. While working for Turnstone, of course you may participate in business associations, charitable organizations or other similar organizations, subject to the reasonable objection of Turnstone and provided that it does not interfere with the proper discharge of your duties to Turnstone. For greater clarity, we confirm you can continue your current participation with Synlogic Therapeutics, the portfolio review committee of the experimental drug development center in Singapore and iOMX.

This letter supersedes any and all prior understandings, whether written or oral, relating to the terms of your employment.

If this letter correctly sets forth the terms under which you will be employed by the Company, please sign this letter in the space provided below, as well as the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. Please return both documents to [***] by 5:00 pm (EDT) February 27, 2022. After that date, this offer of employment will expire.

If you have any questions or need additional information, please do not hesitate to contact me. On behalf of the entire Turnstone team, we look forward to your acceptance and to working with you in this new role.

Sincerely Yours,

/s/ Christine Blodgett
Christine Blodgett 07-Mar-2022
Head of HR
Turnstone Biologics Corp.

The foregoing correctly sets forth the terms of my employment with Turnstone. I am not relying on any representations other than as set out above.

/s/ Michael Burgess Date: 07-Mar-2022
Michael Burgess

Enclosures: Nondisclosure, Assignment of Inventions and Noncompetition Agreement

Certain information has been excluded from this agreement (indicated by "[***]") because such information is both not material and the type that the registrant customarily and actually treats as private or confidential.

March 1, 2023 – updated March 2, 2023

Via PDF Email to Vijay Chiruvolo [***]

Dear Vijay:

It is my pleasure to extend to you this offer of employment with Turnstone Biologics Corp. ("**Turnstone**" or the "**Company**"). We are enthusiastic about the prospect of you joining our company! The specifics of our offer to you are as follows:

1. You will be employed on a full-time interim basis as the Chief Technology Officer, reporting to Sammy Farah in the Company's San Diego, CA office. You will be expected to devote your full time, attention and efforts to the business of the Company.

2. Your start date will be March 13, 2023 or such other date as we mutually agree ("**Start Date**"). Your role as interim CTO is anticipated to last for a term of six (6) months ("**Initial Term**"). After the Initial Term, if mutually agreeable, your role will transition to that of Chief Technology Officer (no longer interim).

3. Your base salary will be at the annual rate of $420,000.00 USD, less applicable taxes and withholdings, which shall be paid on a bi-monthly basis in accordance with our regular payroll schedule. You are also be eligible for an annual conditional performance bonus of 35%, less applicable taxes and withholdings, based upon a combination of individual and Company performance. You must be actively employed as of the pay-out date of any bonus in order to earn and be eligible to receive it.

4. You will be paid a one-time Housing Allowance in the amount of $20,000 (less applicable taxes and withholdings) to be paid on the first regular payroll date following the Start Date (the "**Housing Allowance**").

5. You may participate in any and all benefit programs that the Company establishes and makes available to its employees from time to time, provided you are eligible under and subject to all provisions of the plan documents governing those programs. Please note that the Company reserves the right at any time to amend benefits, and/or to switch to a different benefit carrier or plan, and you will not have any right to compensation as a consequence. If you need details about current benefits before accepting this offer, please contact [***]

6. You will also be eligible for 20 days of vacation time per calendar year, which shall accrue on a pro-rata basis and be used in accordance with the Company's regular policies. You are also entitled to all applicable public holidays in the United States.

7. You will be eligible for paid sick time in accordance with applicable local laws.

8. Subject to the approval of the Board of Directors of the Company, the Company will grant to you 1,408,499 incentive stock options (the "**Options**") for the purchase of common stock of the Company, at a price to be determined by the Board of Directors. The Options shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the applicable Company stock option plan and in a separate option agreement that shall be executed by you and the Company to evidence the grant of the Options. A copy of the current Equity Plan will be provided to you on your Start Date but if you wish to review it before accepting this offer, a copy will be provided on request.

9. As a condition of employment, you will be required to execute the enclosed Nondisclosure and Assignment of Inventions Agreement. This Agreement forms part of the terms of your employment, and many of its obligations survive and remain in effect if you leave Turnstone for any reason whatsoever. Because we understand the importance of protecting confidential information and proprietary property, we expect and direct you to honor any confidentiality and ownership of inventions/proprietary property obligations that you owe to your former employer(s) or other third parties.

10. As a condition of employment, you will be required to abide by all Company policies and procedures that shall be in effect from time to time, because we are an early stage company, rules and policies are a work in progress. The Company reserves the right to revise, revoke, or introduce new rules and policies, as the Company may deem necessary from time to time, and you will also be required to abide by any changes in the rules and policies, once you are advised of the changes and they come into effect.

11. You represent that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from entering into employment with or carrying out your responsibilities for the Company, or which is in any way inconsistent with the terms of this letter.

12. You agree to provide to the Company, within three days of your hire date, documentation of your eligibility to work in the United States, as required by the Immigration Reform and Control Act.

13. This letter shall not be construed as an agreement, either express or implied, to employ you for any stated term, and shall in no way alter the Company's policy of employment at will, under which both you and the Company remain free to end the employment relationship, for any reason, at any time, with or without cause or notice. Similarly, nothing in this letter shall be construed as an agreement, either express or implied, to pay you any compensation or grant you any benefit for the duration of or beyond the end of your employment with the Company. This letter supersedes any and all prior understandings, whether written or oral, relating to the terms of your employment. If the Company opts to end the employment relationship during the Initial Term, you and the Company agree that Severance Benefits nor a 2023 Conditional Annual Bonus Payment will apply.

14. While working for Turnstone, of course you may participate in business associations, charitable organizations or other similar organizations, subject to the reasonable object of Turnstone and provided that it does not interfere with the proper discharge of your duties to Turnstone. For greater clarity, we confirm that, during the Initial Term, you may consult for other organizations, who do not compete with any business in which the Company is engaging or in which the Company plans to engage, for no more than 20 hours per month.

If this letter correctly sets forth the terms under which you will be employed by the Company, please sign this letter in the space provided below, as well as the enclosed Nondisclosure, Assignment of Inventions and Noncompetition Agreement. Please return both documents to [***] by 5:00 pm (EDT) March 6, 2023. After that date, this offer of employment will expire.

If you have any questions or need additional information, please do not hesitate to contact me. On behalf of the entire Turnstone team, we look forward to your acceptance and to you joining us.

Sincerely Yours,

/s/ Christine Blodgett
Christine Blodgett
Vice President, Human Resources
Turnstone Biologics Corp.

The foregoing correctly sets forth the terms of my employment with Turnstone. I am not relying on any representations other than as set out above.

/s/ Vijay Chiruvolo Date: 05-Mar-2023

Vijay Chiruvolo

Enclosures:
Nondisclosure and Assignment of Inventions Agreement

Exhibit 21.1

Subsidiaries of Turnstone Biologics Corp.

Name of Subsidiary	**Jurisdiction of Organization**
Turnstone Biologics Inc.	Canada
Myst Therapeutics, LLC	United States (Delaware)