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

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2021

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM TO**

Commission File Number: 001-39980

Sensei Biotherapeutics, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**83-1863385**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
451 D Street, Suite 710 Boston, MA	**02210**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (240) 243-8000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value per share	SNSE	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☐ NO ☒

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES ☐ NO ☒

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). YES ☒ NO ☐

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 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

As of June 30, 2021 (the last business day of the Registrant's second fiscal quarter), the Registrant 's aggregate market value of its voting common equity held by non-affiliates was $204 million based on the closing sale price of $9.76 per share as reported on the Nasdaq Global Market on that date. The number of shares of Registrant's Common Stock outstanding as of March 10, 2022 was 30,682,813.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, for its 2022 Annual Meeting of Stockholders are incorporated by reference in Part III of this Form 10-K.

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Cautionary Notice Regarding Forward-Looking Statement

All statements other than statements of historical fact included in this Annual Report on Form 10-K ("Report"), including, without limitation, statements under "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" regarding our financial position, business strategy and the plans and objectives of management for future operations, are forward-looking statements. When used in this Report, words such as "may," "might," "can," "will," "to be," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "project," "potential," "likely," "continue" and "ongoing," or the negative of such terms or other similar expressions, as they relate to us or our management, identify forward-looking statements.

Any statements in this Report, or incorporated herein, about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. Within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, these forward-looking statements include statements regarding:

- the ability of our preclinical studies and future clinical trials to demonstrate acceptable safety and efficacy of our product candidates;
- business disruptions affecting the initiation, patient enrollment, development and operation of our clinical trials, including a public health emergency, such as the global outbreak of the COVID-19 coronavirus;
- the timing, progress and results of preclinical studies and clinical trials for our current and future product candidates, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available, and our research and development programs;
- the timing, scope and likelihood of regulatory filings and approvals, including IND submissions for our product candidates;
- our ability to develop and advance our current product candidates and programs into, and successfully complete, clinical trials;
- our manufacturing, commercialization, and marketing capabilities and strategy;
- the need to hire additional personnel and our ability to attract and retain such personnel;
- the size of the market opportunity for our product candidates, including our estimates of the number of patients who suffer from the diseases we are targeting;
- our expectations regarding the approval and use of our product candidates as first, second or subsequent lines of therapy or in combination with other drugs;
- our competitive position and the success of competing therapies that are or may become available;
- the characteristics and therapeutic effects of our product candidates;
- our ability to obtain and maintain regulatory approval of our product candidates;
- our plans relating to the further development of our product candidates, including additional indications we may pursue;
- our intellectual property position, including the scope of protection we are able to establish and maintain for intellectual property rights covering product candidates we may develop, including the validity of intellectual property rights held by third parties, and our ability not to infringe, misappropriate or otherwise violate any third-party intellectual property rights;
- our continued reliance on third parties to conduct additional clinical trials of our product candidates;
- our ability to obtain, and negotiate favorable terms of, any collaboration, licensing or other arrangements that may be necessary or desirable to develop, manufacture or commercialize our product candidates;
- the pricing and reimbursement of our product candidates we may develop, if approved;
- the rate and degree of market acceptance and clinical utility of our product candidates we may develop;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our financial performance and our ability to effectively manage our anticipated growth;
- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;

- the impact of laws and regulations;
- our expectations regarding the period during which we will qualify as an emerging growth company under the JOBS Act; and
- our anticipated use of our existing resources and the proceeds of any offerings pursuant to this Report.

These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this Report, even if new information becomes available in the future.

PART I

Item 1. Business.

Overview

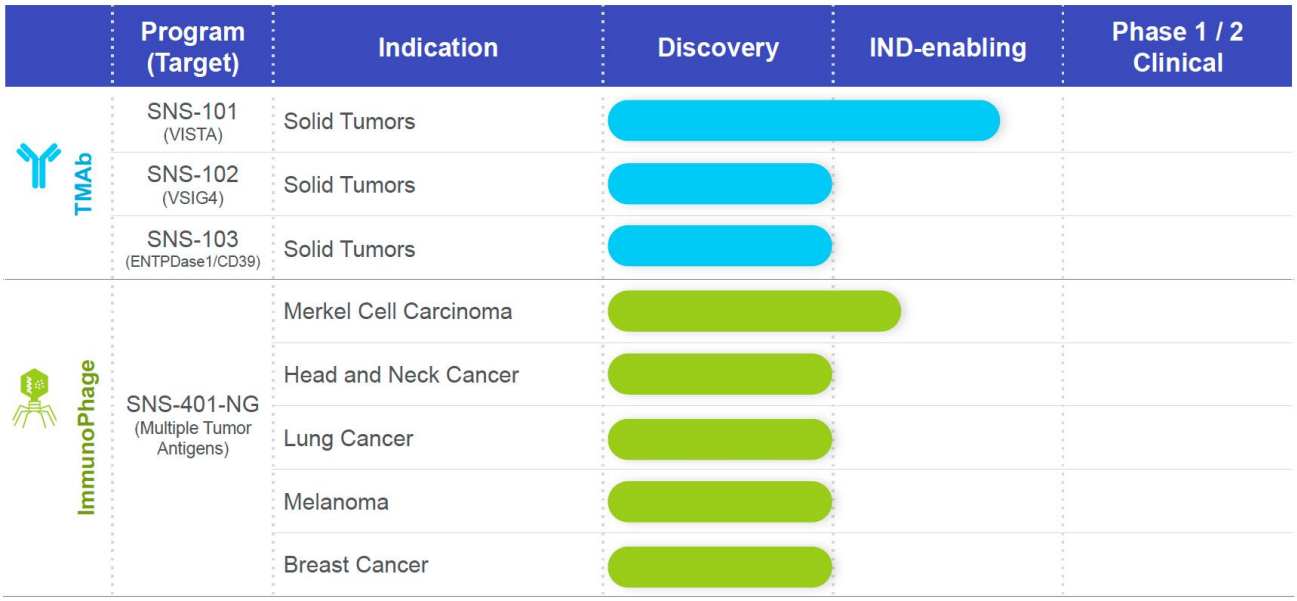
We are a biopharmaceutical company engaged in the discovery, development, and delivery of next-generation immunotherapies with an initial focus on treatments for cancer. Our focus is to leverage well characterized biological targets to generate novel product candidates that incorporate next generation technologies or approaches. We have built a robust set of R&D capabilities and infrastructure to support the discovery and advancement of our product candidates. Our goal is to efficiently develop these product candidates by incorporating state-of-the-art biomarker approaches and mechanistic understanding into clinical trial designs targeted to well-defined patient populations.

Therapeutic drugs targeting the programmed cell death protein 1, or PD-1, and its related ligand, or PD-L1, have emerged as one of the most promising classes of therapeutics for the treatment of cancer. Drugs utilizing PD-1 blockade have been approved by the FDA to treat at least 20 different types of cancer and, in 2020, generated sales of approximately $30 billion worldwide. By 2026, the total global market for drugs utilizing PD-1 blockade is estimated to exceed $90 billion. However, despite the widespread us of checkpoint inhibitors, approximately 70% of patients do not achieve survival benefit from treatment. Common patterns associated with non-response to PD-1 blockade treatment are immune-excluded or segregated tumors, where T-cells are present but trapped in the adjacent stroma and immune-ignored tumors, where there is an overall paucity of T cells in the tumor. A third important group of PD-1 non-responsive tumor are those that are inflamed, but which don't respond to PD-1 blockade monotherapy.

We have developed two platforms that are designed to address resistance to immunotherapy. Our TMAb (Tumor Microenvironment Activated Biologics) platform generates next-generation antibodies that block key immune checkpoints selectively within the tumor microenvironment. Our ImmunoPhage platform is a pioneering approach to cancer therapy that utilizes and combines aspects of vaccine, gene therapy, and personalized medicine approaches. Both platforms are designed to work independently or have the potential to be combined for to create powerful rational drug combinations.

Our Pipeline

We believe there are multiple opportunities and significant potential for patients within our product pipeline. Each program is derived from either our TMAb or ImmunoPhage platform and targets validated immune checkpoints or tumor antigens that are well validated.



We currently have four investigational products in various stages of early development:

- **SNS-101** is our monoclonal antibody targeting the immune checkpoint VISTA and is currently in IND-enabling studies. In the second half of 2021, we selected our clinical candidate antibody and initiated GMP manufacturing and IND-enabling studies.
- **SNS-102** is our monoclonal antibody targeting VSIG4, an immune checkpoint often expressed on macrophages and is likely a key player in macrophage polarization.
- **SNS-103** is our monoclonal antibody targeting ENTPDase1, also known as CD39. ENTPDase1 is the rate-limiting enzyme in the breakdown of extracellular ATP, leading to the production of adenosine, a well-established immunosuppressive pathway.
- **SNS-401-NG** is our ImmunoPhage candidate being developed initially for the treatment of patients with Merkel cell carcinoma, or MCC. SNS-401-NG is designed to deliver a personalized cocktail of off-the-shelf premanufactured ImmunoPhage aimed at driving a patient-specific constellation of anti-tumor T cells.

Our Strategy

Our vision is to discover and advance a best-in-class and differentiated set of immuno-oncology product candidates utilizing next-generation technologies that offer transformative therapeutic options to patients with unmet needs. Our development strategy is designed to leverage in-house expertise at translational medicine to rapidly advance our investigational products through clinical trials. The key aspects of our strategy include:

- **Build a differentiated portfolio of product candidates by incorporating next-generation technologies.** We are building a portfolio of antibody-based therapeutics that are selectively active in the tumor microenvironment, thus potentially overcoming the pharmacological and toxicological barriers often associated with immune targets, due to on-target/off-tissue binding. We believe this approach offers the potential to unlock a set of immune targets that have been previously inaccessible through traditional monoclonal antibody approaches. Additionally, we are building a library of ImmunoPhage product candidates, called the Phortress library, that are combined on demand to target tumor antigens that are matched to the genetic or proteomic profile of each patient's tumors.

- **Focus on targets with well validated biology.** We primarily focus on targets that are well validated, meaning that they have been the subject of prior clinical trials or rigorous preclinical examination.

- **Leverage our translational medicine expertise to advance our medicines quickly and efficiently.** We have built a team with a track record of innovation in the fields of immuno-oncology, biomarkers, and diagnostics and a network of academic collaborations that bring specialized technologies and resources to our programs. We believe this capability will allow us to speed the clinical development process by identifying patient populations that are most likely to respond to our product candidates.

- **Target patient populations with both strong scientific and commercial relevance.** We largely work on targets that have the potential to alter the treatment landscape across numerous cancer indications. For example, VISTA is expressed in cells of myeloid lineage, which are found frequently and across a wide range of cancers, including NSCLC, breast cancer, SCCHN, and melanoma.

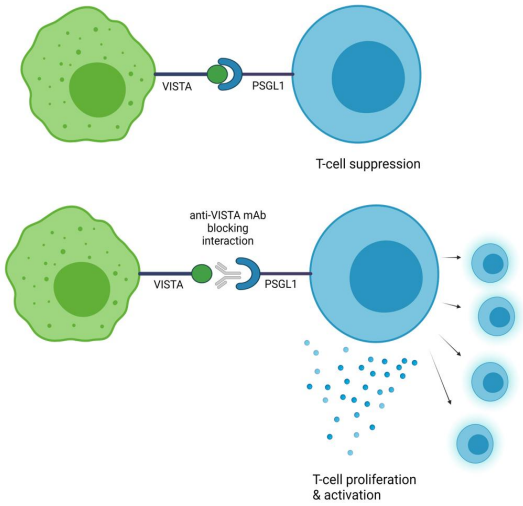
- **Maximize the value of our pipeline and technology through strategic collaborations**. We seek to establish collaborations with pharmaceutical or biotechnology companies that provide access to capital, expertise, or additional capabilities.

Our Portfolio of Product Candidates

SNS-101: Monoclonal Antibody Targeting VISTA

We believe that anti-VISTA antibodies have the potential to become the backbone of the next generation of cancer immunotherapy. Based on our expertise and deep understanding of this myeloid checkpoint target, our human monoclonal antibody targeting VISTA is designed to overcome the challenges of the previous generation of anti-VISTA monoclonal antibodies and has the potential to become first anti-VISTA monoclonal antibody approved for as a therapeutic agent.

VISTA is an important immunoregulatory receptor and is highly expressed on various immune system cells, though predominantly myeloid lineage cells, including neutrophils, monocytes, macrophages, basophils and dendritic cells, or DCs. While expressed on CD4 T helper cells and certain T regulatory cells, it exhibits much lower expression on CD8 cytotoxic T lymphocytes, or CTLs. Effective cancer immunotherapy is often confounded by immune checkpoints such as VISTA and VISTA's presence within tumors is often indicative of a poor prognosis. Effective VISTA blockade appears to dramatically modulate the TME towards a state that favors an immune system response, resulting in improved T-cell effector function and anti-tumor activity.



VISTA has been historically challenging to target for cancer therapy for several reasons. Because significant amounts of VISTA are expressed in immune cells of the blood, the binding of anti-VISTA antibodies using traditional technologies occurs at significant levels outside of the tumor, resulting in a phenomenon known as target-mediated drug disposition, or TMDD. TMDD presents a pharmacological "sink" effect whereby antibody is effectively drained from the body by binding to VISTA on normal cells in the blood, effectively limiting distribution of anti-VISTA mAbs within the tumor. Thus, TMDD results in the need for ever-higher doses to reach a biological active concentration within the tumor and, subsequently, increases the likelihood of on-target, off-tumor toxicity.

The second reason why anti-VISTA drug development had lagged behind other checkpoints (e.g. PD-1) is that until recently the critical inhibitory receptor on T cells was not known. Recently, however, the primary receptor on T-cells that is critical to the VISTA's immune checkpoint function within the tumor microenvironment was discovered: PSGL-1 (P-selectin glycoprotein ligand-1). Importantly, the VISTA:PSGL-1 interaction only occurs at the low pH (~pH 6), like that found within the tumor microenvironment. The high affinity interaction between VISTA and PSGL-1 at low pH is strictly dependent upon protonation of key histidine residues in the extracellular PSGL1-binding domain of VISTA. In effect, the low pH microenvironment of the tumor induces VISTA to convert from an inactive, un-protonated form (physiological pH) to its "active," protonated form. Thus, we believe VISTA is an ideal target for our TMAb platform, which we have used to identify SNS-101 as a pH-dependent mAb with a greater than 600-fold selective binding for the active versus the inactive form of VISTA. We believe that SNS-101 will successfully (1) avoid binding to VISTA in the blood, which results in TMDD and on-target, off-tumor toxicity; and (2) bind "active" VISTA at low pH and block VISTA's immune checkpoint function within the tumor via inhibition of the interaction with PSGL-1.

A third challenge to prior efforts to generate effective antibodies targeting VISTA is the understanding that an active Fc region is optimal for activity. Thus, we have designed SNS-101 on an IgG1 antibody framework. We believe that anti-VISTA IgG1 mAbs bind to VISTA on, among other cell types, tumor-associated macrophages, or TAMs. This binding leads to clustering of the IgG1 domains and transactivation of FcgRs on adjacent TAMs. This interaction between TAMs is likely not unidirectional or even restricted to cell pairs. Each VISTA+ cell could play a role in activating multiple VISTA+ neighbors. Although this myeloid-on-myeloid VISTA/mAb/FcgRs-mediated activation and proinflammatory cytokine release is beneficial within the confines of the tumor microenvironment, it would be potentially deleterious if it were to occur in the blood. We believe that this myeloid-on-myeloid activation is precisely the mechanism underlying the cytokine release syndrome, or CRS, observed in clinical trials with anti-VISTA mAbs, as was seen at low doses in the Phase 1 trial of JNJ-61610588 (now CI-8993), a potent non-pH-dependent anti-VISTA mAb.

Dose limiting toxicities of CRS resulted in early termination of this development program by J&J. In contrast, we anticipate that SNS-101 will have significantly less “in blood” activation due to its lack of significant binding to VISTA at physiological pH.

In sum, we believe that there are three critical design parameters required to achieve optimal biologic activity of inhibitory anti-VISTA antibodies:

1. Block the pH-dependent binding of VISTA to PSGL-1 on T cells at low pH
2. Selectively bind VISTA at low pH to avoid TMDD and on-target/off-tumor side effects
3. Utilize an Fc-competent IgG backbone to engage and activate $FcgR^+$ myeloid cells within the tumor

We believe SNS-101 is the only anti-VISTA antibody in development that was designed with these three salient features in mind.

SNS-101 is a fully human monoclonal IgG1 antibody that has been designed to selectively binds active (low pH) VISTA, but not inactive VISTA in the blood. In preclinical studies, we have observed that SNS-101 binds to VISTA at low pH with a greater than 600-fold differential affinity compared to VISTA at physiological pH of 7.4.

	pH 6.0	**pH 7.4**
Monovalent Affinity (KD) [nM]	0.218	132 (No pharmacologically relevant binding)

We have also observed that SNS-101 disrupts the binding of PSGL-1 to VISTA, thus disabling the immunosuppressive effects of this checkpoint. SNS-101 has potently blocked binding of VISTA to PSGL-1 on both CD4+ and CD8+ T-cells. In syngeneic preclinical mouse models, SNS-101 has displayed promising activity, particularly in combination with an anti-PD-1 antibody. We are actively conducting translational studies to understand the elucidate and molecular mechanism of this synergy.

Based on the totality of the preclinical data to date and the promising profile of this antibody, we have initiated both IND-enabling studies and GMP manufacturing for SNS-101. We expect to receive pharmacokinetic and toxicology data from our single dose non-human primate studies in mid-2022 and submit an IND in the first half of 2023.

SNS-102: Monoclonal Antibody Targeting VSIG4

VSIG-4 (V-set and Ig domain-containing 4; also known as CRIg, or complement receptor of the Ig superfamily) is a B7-related family member, which is highly expressed on macrophages, including TAMs. VSIG-4 has been shown to be a potent inhibitor of T cell proliferation. Furthermore, VSIG-4 inhibits proinflammatory macrophage activity through metabolic reprogramming. These complementary immunosuppressive features of VSIG-4 make it an interesting and high-potential myeloid immunotherapeutic target.

Expression of VSIG-4 in normal tissues, chiefly on tissue-resident macrophage populations such as the Kupffer cells of the liver, suggest the presence of a large peripheral target sink and potential for on-target/off-tumor toxicities. Taken together, these features make VSIG-4 a strong candidate for a TMAb-based approach.

We have initiated antibody generation and screening targeted toward for SNS-102. We expect to select a product candidate and initiate IND-enabling studies in 2023.

SNS-103: Monoclonal Antibody Targeting ENTPDase1 (CD39)

ENTPDase1 (also known as CD39, or ecto-nucleoside triphosphate diphosphohydrolase-1) is the upstream, rate-limiting enzyme, leading to the breakdown of extracellular adenosine triphosphate, or ATP. Extracellular ATP represents a potent immunologic “danger signal”, which drives immune activation. The ultimate downstream product of this pathway, adenosine, has potent immunosuppressive activity through binding to adenosine receptors. Upregulation of CD39 by tumors is common and leads to decreased extracellular ATP and a diminished anti-tumor immune response.

Pharmacologic inhibition of CD39 activity has shown anti-tumor activity in a variety of experimental tumor models. Several of these molecules are currently being evaluated as cancer therapeutics in early phase clinical trials. CD39, although upregulated in tumors, is also expressed in normal tissue on a variety of different cell populations. The expression of CD39 on endothelial cells is particularly problematic, as this is anticipated to result in significant on-target/off-tumor binding, leading to TMDD, a poor PK profile and potential toxicities.

We have initiated a TMAb antibody campaign aimed at developing an anti-CD39 inhibitory antibody with high selectivity for CD39 in the tumor microenvironment, or TME, versus normal tissue environments. We expect to select a product candidate in 2023.

SNS-401-NG: Personalized ImmunoPhage Vaccine Targeting Multiple Tumor Antigens

We are currently developing our next ImmunoPhage candidate, SNS-401-NG, which we will first test in patients with Merkel cell carcinoma, or MCC. MCC is a rare but highly aggressive neuroendocrine carcinoma of the skin in which Merkel cell polyoma virus, or MCPyV, infection and chronic exposure to ultraviolet radiation are key risk factors. Approximately 2,500 cases are diagnosed each year with the disease-specific mortality approaching 50%. Integration of MCPyV is evidenced by the presence of virus-specific antigens in 80% of cases diagnosed in the U.S. In these cases, expression of a virus-related T cell oncogenic antigen appears intimately linked to tumor growth. We believe that MCC is an initial indication case for cancer vaccine candidates for several reasons, including the expression of strongly immunogenic viral neoantigens, derived from the MCPyV T antigen, which is required for continued tumor cell proliferation. Thus, not only are MCPyV antigens optimal vaccine targets, but there is no possibility of immune escape through genetic deletion. In addition to MCPyV antigens, most MCC tumors express multiple "shared" antigens (e.g. glypican-3, NY-ESO-1, etc), providing an opportunity to test the ability of a personalized cocktail of ImmunoPhage to engender strong and clinically meaningful tumor antigen-specific T cell responses.

Checkpoint inhibitors have proven to be a major advancement in the treatment of advanced MCC and have revolutionized the treatment of locally advanced, inoperable, and metastatic MCC. Systemic PD-1/PD-L1 inhibition therapy is associated with a high ORR, prolonged durable responses, and good tolerability in advanced-stage MCC. However, even with the advances made by checkpoint inhibitors, refractory PD-1/PD-L1 inhibitor disease remains a significant unmet medical need with an aggressive clinical course.

In March 2020, we established a collaboration with The University of Washington, one of the world's leading research centers for the study of MCC. This broad collaboration will support discovery and optimization of joint construction through preclinical development of the first custom MCC vaccine consisting of MCPyV epitopes together with other patient specific antigens. The University of Washington will design MCPyV T cell constructs and determine the immunogenicity and mechanism of candidate ImmunoPhages developed by us. We will develop ImmunoPhages specifically targeting MCPyV T cell constructs and other TAAs using our cocktail approach. We believe that the MCPyV epitope space can be completely addressed with an ImmunoPhage cocktail of two bacteriophage carriers. We have an exclusive option to license on an exclusive, worldwide basis the intellectual property developed as part of this collaboration. Currently, we plan on initiating IND-enabling studies for SNS-401-NG in the second half of 2022.

Our Approach to Cancer Immunotherapy

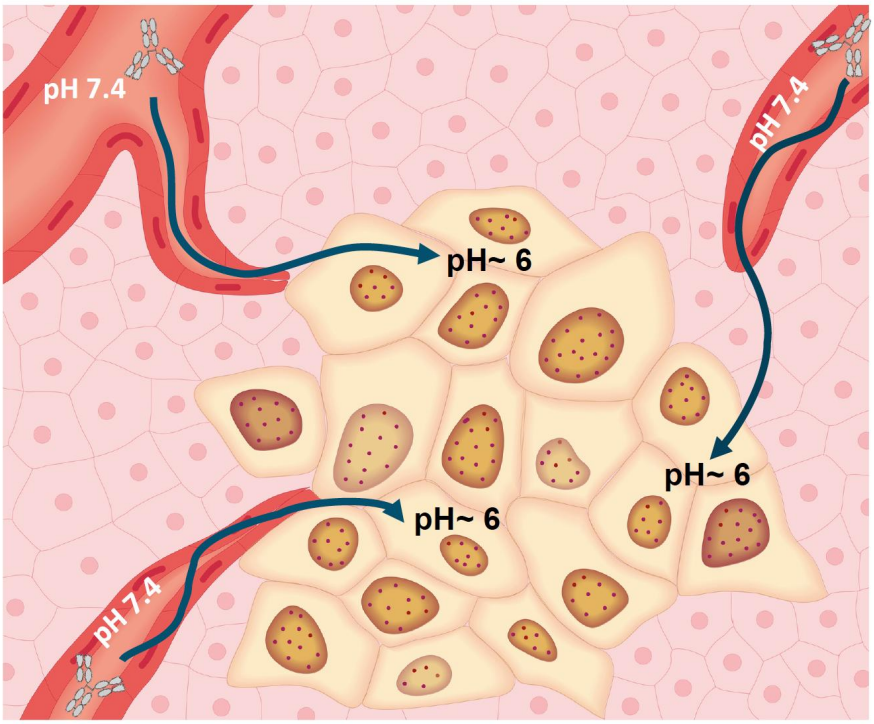
Our TMAb Platform

Our TMAb platform is designed to "unleash" the anti-tumor potential of T-cells and is comprised of human monoclonal antibodies that are selectively active in the tumor microenvironment and target immune checkpoints or other critical immune pathways. Selective activation within the tumor is a critical aspect of TMAb and has the potential to "unlock" previously undruggable immune targets for use in oncology applications.

There are several unique features of tumors that TMAb antibodies can leverage to design antibodies that are selectively active within the tumor while displaying little or no activity outside the tumor. One key differentiating feature of tumors relative to most normal human tissue is their relative acidity or low pH, which is typically approximately pH 6.0 compared with normal physiologic pH of 7.4. The acidic environment within tumors is a result of their altered metabolic program, utilizing aerobic glycolysis, resulting in lactic acid production (so called Warburg effect).

Other TMAb approaches could potentially leverage other "divergent" biochemical parameters such as altered REDOX state, high extracellular ATP or DNA, and hypoxia. We utilize yeast surface display technology of antibody and nanobody libraries to identify rare clones, which exhibit desired binding properties under these "tumor-like" biochemical parameters (e.g. >100-fold selective binding to target at pH 6 versus pH 7.4).

pH-sensitive Antibodies Bind Their Targets Only in a Low pH Environment



We are initially focusing our research for this platform on an immune checkpoint regulator VISTA, which may play a role in both intrinsic and acquired PD-1/PD-L1 resistance. We are also developing TMAb antibodies targeting VSIG4, a potent inhibitor of T-cell activity, often overexpressed on macrophages within the tumor microenvironment and ENTPDase 1 (CD39), which is the rate-limiting enzyme in the breakdown of extracellular ATP, leading to the production of adenosine, a well-established immunosuppressive pathway. Through the targeted use of this platform, we believe we can further enhance activity of cancer therapies either as a monotherapy or synergistic with PD-1/PD-L1 inhibition.

Our ImmunoPhage Platform

Our proprietary ImmunoPhage platform is a potentially powerful, self-adjuvanted and highly differentiated immunotherapy approach that is designed to utilize bacteriophage to generate a robust, focused and coordinated innate and adaptive immune response. We are engineering our ImmunoPhage product candidates to directly target antigen presenting cells, or APCs, and modulate the TME through the targeted use of nanobodies which further enhances therapeutic activity. We believe our ImmunoPhage platform has the potential to deliver personalized, off-the-shelf product candidates tailored to a patient's specific tumor. The versatility of our ImmunoPhage platform allows us to design product candidates in a modular fashion, based on a cocktail of common and patient-specific antigens built from our proprietary library of ImmunoPhages, which we refer to as Phortress.

In addition to its natural characteristics, lambda phage can be manufactured without significant difficulty and is amenable to further optimization through our proprietary engineering capabilities, such as the addition of antigens and integration of our proprietary nanobodies, which can be used to direct the phage to specific cells and as payloads that can be incorporated into our product candidates. Our product candidates are able to be manufactured through the well-established principles of bacterial fermentation, which provides cost and scalability advantages. We believe that these advantages make personalized ImmunoPhage cocktails a commercially viable solution to the current challenges facing fully personalized patient-specific immunotherapy.

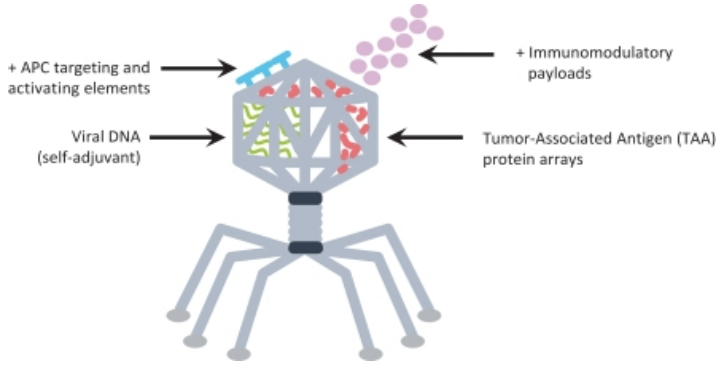
Our ImmunoPhage platform is designed to address the challenges of converting PD-1 blockade non-responsive tumors into responsive ones by triggering the generation of tumor antigen-specific T cells and circumventing immunosuppressive pathways.

The highly immunogenic nature of bacteriophage promotes a balanced, coordinated and robust response by both the innate and the cellular and humoral components of the adaptive immune system. We believe that the unique features of bacteriophage, including the ability to generate both T cell responses and B cell mediated antibody responses, give it the potential to be used in the development of differentiated treatments for cancer. The modularity of the ImmunoPhage platform allows for personalized, dynamic substitution of particular phage components to optimize patient therapy. Our creation of a phage cocktail expressing multivalent antigens along with the integration of nanobody technology is designed to enhance the utility, precision and therapeutic activity of our product candidates. We believe this allows for an adaptive clinical trial design.

Our ImmunoPhage platform capitalizes on the following key immunostimulatory features:

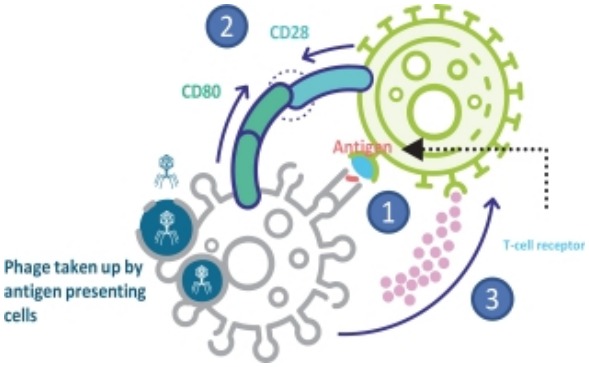
- **Self-adjuvanted:** ImmunoPhage elicits an enhanced immune response and displays a high-density of the protein sequence of the targeted antigen and contains multiple CpG motifs in its DNA genome, eliminating the need to include an exogenous adjuvant common to competing viral and mRNA nanoparticle immunotherapies.
- **Intrinsic APC targeting:** ImmunoPhage demonstrates a natural tropism for APCs. We have identified and are advancing additional mechanisms, such as engineering moieties on ImmunoPhage targeted to proteins found on APCs, to further optimize APC targeting and costimulatory signaling.
- **Modular antigen design:** We intend to use off-the-shelf common antigens together with viral and patient-specific antigens as an array of customized, multi-antigen phage configurations, which we refer to as phage cocktails. We believe that the ability to dose cocktails of ImmunoPhage displaying different antigens have the potential to create a personalized, patient-specific immunotherapy.
- **Targeted use of nanobodies:** We are developing nanobodies targeted to immune checkpoints and other immune stimulatory molecules that can be packaged into the phage as immunomodulatory payloads to enhance immunogenicity.

Structure of Our ImmunoPhage



The ImmunoPhage mechanism of action focuses on what we believe to be the critical step leading to the generation of effective anti-tumor T cells, the immune priming step where APCs acquire and process tumors antigens and interact with CD4 and CD8 T cells in the immune synapse. ImmunoPhage mimics a pathogenic virus and naturally targets APCs that capitalize on phage-intrinsic danger signals which activate these critical cells. The aggregation of antigen and danger signals enable self-adjuvant capabilities in a single entity which help to enhance the immunogenicity and augment downstream immune responses, including antigen-specific B and T cell responses. In order to drive optimal generation of antigen-specific T cells, the APC must deliver three discrete critical signals to the T cell, as shown below.

ImmunoPhage Activates Three Discrete Critical Signals Required to Drive Activation of T Cells



1 **Signal one** involves antigenic peptides, derived from APC protein processing pathways, presented in the context of the appropriate major histocompatibility complex, or MHC, molecules, Class II for CD4 T cells and Class I for CD8 T cells. An alternate MHC Class I presentation pathway results in the activation of CD8 T cells through a process called cross presentation.

2 **Signal two** involves the APC expressing positive costimulatory molecules CD80 (or CD86) interacting with CD28 on the T cells. In the presence of significant negative costimulatory signals through molecules like PD-L1 or VISTA, or the lack of sufficient positive co-stimulation, the interaction between APC and T cell can lead to dysfunction of the T cell rather than T cell activation.

3 **Signal three** collectively refers to the cytokine microenvironment of the immune synapse wherein the priming interaction between APC and T cell is occurring. This cytokine milieu determines the differentiation and fitness of the downstream T cell response. For instance, a rich IL-12 environment leads to a Th1 biased immune response and enhanced generation of CTLs.

We believe that ImmunoPhage can efficiently deliver antigen to and activate DCs, driving these three critical signals in the priming phase of the immune response. We have observed that increasing doses of ImmunoPhage on human skin-derived DC cultures increase the critical components of signals two and three in a dose-dependent fashion. Importantly, in the context of anti-tumor immune responses, which require the generation of tumor antigen-specific CD8 T cells, phages can drive cross-presentation of displayed antigens, even breaking tolerance to "self" TAAs.

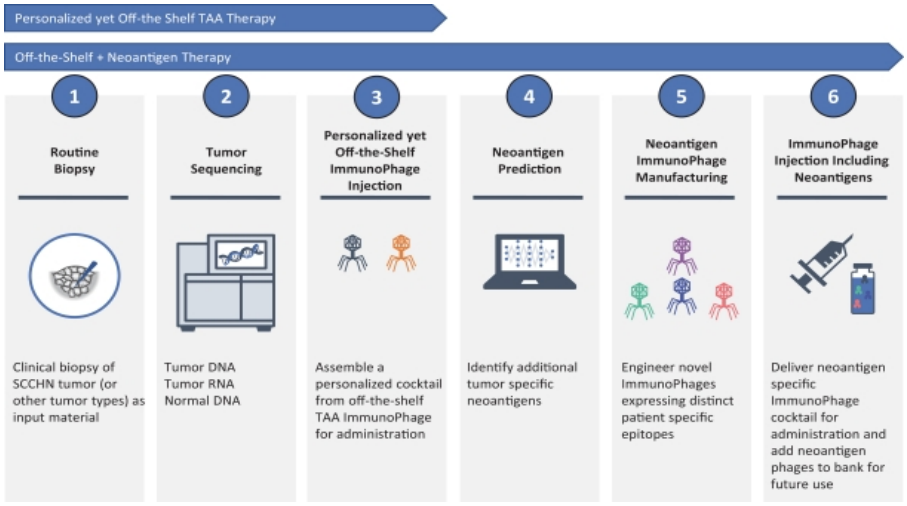
Our Adaptive Approach to ImmunoPhage Cocktail Therapy

Our ImmunoPhage platform enables a cocktail therapy approach that has the potential to provide patients with the benefits of both an off-the-shelf treatment and a personalized approach to their individual cancer. Each ImmunoPhage product candidate we produce has a unique therapeutic armament, such as various multivalent antigens, including those targeting CD4, CD8 and B cell epitopes designed to deliver broad epitope coverage, and nanobody payloads added to boost antigenicity or provide direct cancer cell killing capabilities. Based on the profile of a patient's tumor, multiple distinct ImmunoPhage product candidates, each having a distinct profile, can be combined for treatment.

The modular nature of the Phortress library allows for personalized dynamic substitution of particular ImmunoPhage components to optimize patient therapy. Moreover, the ease of manufacturing allows us to perform immune monitoring in patients to assess the immunogenicity of each phage component of a cocktail and adjust the cocktail during the course of treatment.

We believe that broad epitope coverage along with nanobody payloads, combined with the intrinsic immunostimulatory activity of our ImmunoPhage product candidates, has potential to provide patients with meaningful clinical benefits and that the speed of manufacturing and antigenic capacity of ImmunoPhage cocktails will allow us to address the limitations of neoantigen-only vaccine approaches.

Our Personalized Immunotherapy Process



Manufacturing

We primarily rely on contract manufacturing organizations, or CMOs, to produce our product candidates for clinical use, including our TMAb antibodies. We require that our CMOs produce bulk drug substances and finished drug products in accordance with cGMP, and all other applicable laws and regulations. We may also rely on CMOs for additional parts of the process, like filling and labelling of our products for commercial sale. Any agreements with potential and existing manufacturers will include confidentiality and intellectual property provisions to protect our proprietary rights related to our product candidates.

We are evaluating several options for manufacturing of ImmunoPhage to further enable production of drug substance under cGMP conditions. We believe that having control over certain portions of the manufacturing process may allow us to reduce cycle times, increase the robustness and consistency of the process and potentially reduce cost of goods for commercial production, which are critical to the construction of our Phortress library consisting of multiple novel ImmunoPhage.

Intellectual Property

Intellectual property is of vital importance in our field and in biotechnology generally. We seek to protect and enhance proprietary technology, inventions, and improvements that are commercially important to the development of our business by seeking, maintaining, and defending patent rights, whether developed internally or licensed from third parties. We will also seek to rely on regulatory protection afforded through inclusion in expedited development and review, data exclusivity, market exclusivity and patent term extensions where available.

Wherever possible, we pursue claims directed to the clinical product or product candidates. Such applications may not result in issued patents and, even if patents do issue, such patents may not be in a form that will provide us with meaningful protection for our product. We also rely on trade secrets that may be important to the development of our business. Trade secrets are difficult to protect and provide us with only limited protection.

We expect to file additional patent applications in support of current and new clinical candidates as well as new platform and core technologies. Our commercial success will depend in part on obtaining and maintaining patent protection and trade secret protection of our current and future product candidates and the methods used to develop and manufacture them, as well as successfully defending these patents against third-party challenges and operating without infringing on the proprietary rights of others. Our ability to stop third parties from making, using, selling, offering to sell or importing our products depends on the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities. 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 patents that may be granted to us in the future will be commercially useful in protecting our product candidates, discovery programs and processes. For this and more comprehensive risks related to our intellectual property, please see “Risk Factors—Risks Related to Our Intellectual Property.”

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, including the United States, the patent term is 20 years from the earliest date of filing a non-provisional patent application. In the United States, a patent’s term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office, or USPTO, in examining and granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier filed patent. In the United States, the patent term of a patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent applicable to an approved drug may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when our products receive FDA approval, we expect to apply for patent term extensions on patents covering those products. We plan to seek patent term extensions to any issued patents we may obtain in any jurisdiction where such patent term extensions are available, however there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and if granted, the length of such extensions. For more information regarding the risks related to our intellectual property, see “Risk Factors—Risks Related to Our Intellectual Property.”

In some instances, we submit patent applications directly with the USPTO as provisional patent applications. Corresponding non-provisional patent applications must be filed not later than 12 months after the provisional application filing date. While we intend

to timely file non-provisional patent applications relating to our provisional patent applications, we cannot predict whether any such patent applications will result in the issuance of patents that provide us with any competitive advantage.

We file U.S. non-provisional applications and Patent Cooperation Treaty, or PCT, applications that claim the benefit of the priority date of earlier filed provisional applications, when applicable. The PCT system allows a single application to be filed within 12 months of the original priority date of the patent application, and to designate all of the PCT member states in which national patent applications can later be pursued based on the international patent application filed under the PCT. The PCT searching authority performs a patentability search and issues a non-binding patentability opinion which can be used to evaluate the chances of success for the national applications in foreign countries prior to having to incur the filing fees. Although a PCT application does not issue as a patent, it allows the applicant to seek protection in any of the member states through national-phase applications. At the end of the period of two and a half years from the first priority date of the patent application, separate patent applications can be pursued in any of the PCT member states either by direct national filing or, in some cases by filing through a regional patent organization, such as the European Patent Office. The PCT system delays expenses, allows a limited evaluation of the chances of success for national/regional patent applications and enables substantial savings where applications are abandoned within the first two and a half years of filing.

For all patent applications, we determine claiming strategy on a case-by-case basis. Advice of counsel and our business model and needs are always considered. We seek to file patents containing claims for protection of all useful applications of our proprietary technologies and any products, as well as all new applications and/or uses we discover for existing technologies and products, assuming these are strategically valuable. We continuously reassess the number and type of patent applications, as well as the pending and issued patent claims to pursue maximum coverage and value for our processes, and compositions, given existing patent office rules and regulations. Further, claims may be modified during patent prosecution to meet our intellectual property and business needs.

We recognize that the ability to obtain patent protection and the degree of such protection depends on a number of factors, including the extent of the prior art, the novelty and non-obviousness of the invention, and the ability to satisfy the enablement requirement of the patent laws. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted or further altered even after patent issuance. Consequently, we may not obtain or maintain adequate patent protection for any of our future product candidates or for our technology platform. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from competitors. Any patents that we hold may be challenged, circumvented or invalidated by third parties.

In addition to patent protection, we also rely on trademark registration, trade secrets, know how, other proprietary information and continuing technological innovation to develop and maintain our competitive position. We seek to protect and maintain the confidentiality of proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees and consultants, 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 to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. Our agreements with employees also provide that all inventions conceived by the employee in the course of employment with us or from the employee's use of our confidential information are our exclusive property. However, such confidentiality agreements and invention assignment agreements can be breached and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our consultants, contractors or collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting trade secrets, know-how and inventions. For more information regarding the risks related to our intellectual property, see "Risk Factors—Risks Related to Intellectual Property."

The patent positions of biotechnology companies like ours are generally uncertain and involve complex legal, scientific and factual questions. Our commercial success will also depend in part on not infringing upon the proprietary rights of third parties. Third-party patents could require us to alter our development or commercial strategies, or our products or processes, obtain licenses or cease certain activities. Our breach of any license agreements or our failure to obtain a license to proprietary rights required to develop or commercialize our future products may have a material adverse impact on us. If third parties prepare and file patent applications in the United States that also claim technology to which we have rights, we may have to participate in interference or derivation proceedings in the USPTO to determine priority of invention. For more information, see "Risk Factors—Risks Related to Intellectual Property."

When available to expand market exclusivity, our strategy is to obtain, or license additional intellectual property related to current or contemplated development platforms, core elements of technology and/or clinical candidates.

As of February 28, 2022, our solely owned patent estate included two issued U.S. patents, four issued foreign patents, four pending U.S. patent applications, and one foreign patent applications (pending in Canada).

We own one U.S. provisional patent application relating to composition of matter of SNS-101 product candidate and method claims including use in combination with immune checkpoint protein inhibitors. Subject to payment of required maintenance fees, annuities, and other charges, and assuming either U.S. non-provisional or foreign patent applications are filed at the appropriate time, if issued, are projected to expire in 2042.

License Agreement with Fred Hutch

In connection with our acquisition of Alvaxa Biosciences, Inc., or Alvaxa, in May 2020, we acquired a non-exclusive license agreement, or the Fred Hutch Agreement, with Fred Hutchinson Cancer Research Center, or Fred Hutch, which was originally entered into in January 2020 and amended in March 2020. Pursuant to the Fred Hutch Agreement, we obtained a non-exclusive, non-sublicensable, worldwide license to possess, maintain, and use certain biological materials, including llama-derived antibodies, for any and all uses. Under the Fred Hutch Agreement, we are obligated to use commercially reasonable efforts to develop and commercialize at least one product containing or derived from an antibody in any form, or a developed product.

As partial consideration for the licensed rights granted under the Fred Hutch Agreement, Alvaxa issued Fred Hutch 1,429,412 shares of its common stock, which were subsequently exchanged for 45,656 shares of our common stock in connection with our acquisition of Alvaxa. Under the Fred Hutch Agreement, we are obligated to pay an annual license maintenance fee ranging from the mid-single digit thousands to approximately $0.1 million, depending on net sales of certain future products, where the underlying biological materials were developed prior to our acquisition of Alvaxa, in a given calendar year. We are also obligated to pay up to $300,000 in development milestone payments for each therapeutic developed product and up to $165,000 for each diagnostic developed product, in each case including each unique target covered by such developed product. We have no obligation to pay royalties under the Fred Hutch Agreement.

The Fred Hutch Agreement expires 20 years after the effective date. We may terminate the agreement for convenience, and Fred Hutch may terminate the agreement for our insolvency. Either party may terminate the agreement for breach of material obligations by such other party.

Trademarks, Trade Secrets and Know-How

Our trademark portfolio currently consists of two registered trademarks and one trademark application. In addition to patent and trademark protection, we rely upon unpatented trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. We seek to protect our proprietary information, in part, using confidentiality agreements with our commercial partners, collaborators, employees, and consultants, and employees. These and other agreements, such as invention assignment agreements, grant us ownership of technologies that are developed through a relationship with a third party.

Competition

The biotechnology and pharmaceutical industries have made substantial investments in recent years into the rapid development of novel immunotherapies for the treatment of a range of pathologies, including cancers and infectious diseases, making this a highly competitive market.

We face substantial competition from multiple sources, including large and specialty pharmaceutical, biopharmaceutical and biotechnology companies, academic research institutions and governmental agencies and public and private research institutions. Our competitors compete with us on the level of the technologies employed, or on the level of development of product candidates. In addition, many small biotechnology companies have formed collaborations with large, established companies to (i) obtain support for their research, development and commercialization of products or (ii) combine several treatment approaches to develop longer lasting or more efficacious treatments that may potentially directly compete with our current or future product candidates. We anticipate that we will continue to face increasing competition as new therapies and combinations thereof, technologies, and data emerge within the field of immunotherapy and, furthermore, within the treatment of cancers and infectious diseases.

In addition to the current standard of care treatments for patients with cancers and infectious diseases, numerous commercial and academic preclinical studies and clinical trials are being undertaken by a large number of parties to assess novel technologies and product candidates in the field of immunotherapy. Results from these studies and trials have fueled increasing levels of interest in the field of immunotherapy.

Large pharmaceutical companies that have commercialized or are developing immunotherapies to treat cancer include AstraZeneca, Bristol Myers Squibb, Gilead Sciences, Merck, Novartis, Pfizer, and Roche/Genentech.

On the technology level, other companies which can potentially develop competing product candidates which act to stimulate the body's immune response as a treatment for SCCHN and other solid tumors include companies developing cell-based therapeutics such as CAR-T/TCR/NK therapies as well as companies developing therapeutic vaccines including BioNTech, Moderna, Gritstone Oncology and Oncorus, among others. In addition, a number of companies are developing oncolytic virus approaches, including Boehringer Ingelheim, Johnson and Johnson, Regeneron, Vyriad, Replimune and Turnstone. Amgen has received FDA approval for its oncolytic virus-based product, T-VEC. Ablynx, a subsidiary of Sanofi, and Oncorus are actively pursuing the development of nanobodies as therapeutics.

Many of our competitors, either alone or in combination with their respective strategic partners, have significantly greater financial resources and expertise in research and development, manufacturing, the regulatory approval process, and marketing than we do. Mergers and acquisition activity in the pharmaceutical, biopharmaceutical and biotechnology sector is likely to result in greater resource concentration among a smaller number of our competitors.

Smaller or early-stage companies may also prove to be significant competitors, particularly through sizeable collaborative arrangements with established companies. These competitors also compete with us in recruiting and retain qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Our commercial opportunity could be reduced or eliminated if one or more of our competitors develop and commercialize products that are safer, more effective, better tolerated, or of greater convenience or economic benefit than our proposed product offering. Our competitors also may be in a position to obtain FDA or other regulatory approval for their products more rapidly, resulting in a stronger or dominant market position before we are able to enter the market. The key competitive factors affecting the success of all of our programs are likely to be product safety, efficacy, convenience and treatment cost.

Government Regulation

Government authorities in the United States at the federal, state and local level and in other countries regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of biological products. Generally, before a new drug or biologic can be marketed, considerable data demonstrating its quality, safety and efficacy must be obtained, organized into a format specific for each regulatory authority, submitted for review and approved by the regulatory authority.

U.S. Biological Product Development

In the United States, the FDA regulates biologics under the Federal Food, Drug and Cosmetic Act, or FDCA, the Public Health Service Act, or the PHSA, and their implementing regulations. Biologics also are subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state and local statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or post-market may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, suspension or revocation of a license, a clinical hold, untitled or warning letters, product recalls or market withdrawals, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal penalties.

Our product candidates and any future biological product candidates we develop must be approved by the FDA through a biologics license application, or BLA, before they may be legally marketed in the United States. The BLA is a request for approval to market the biologic for one or more specified indications and must contain proof of safety, purity and potency. The FDA review and approval process generally involves the following:

- completion of extensive preclinical studies conducted in accordance with applicable regulations, including studies conducted in accordance with good laboratory practices, or GLP, requirements;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- approval by an Institutional Review Board, or IRB, or independent ethics committee at each clinical trial site before each trial may be initiated;

- performance of adequate and well-controlled human clinical trials in accordance with applicable IND regulations, good clinical practice, or GCP, requirements and other clinical trial-related regulations to establish the safety and efficacy of the investigational product for each proposed indication;
- submission to the FDA of a BLA;
- a determination by the FDA within 60 days of its receipt of a BLA to accept the filing for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities where the biologic will be produced to assess compliance with cGMP requirements to assure that the facilities, methods and controls are adequate to preserve the biologic's identity, strength, quality and purity;
- potential FDA audit of the preclinical study and clinical trial sites that generated the data in support of the BLA;
- payment of user fees for FDA review of the BLA (unless a fee waiver applies); and
- FDA review and approval of the BLA, including consideration of the views of any FDA advisory committee, prior to any commercial marketing or sale of the biologic in the United States.

Preclinical Studies and IND

Before testing any biological product candidate in humans, the product candidate enters the preclinical testing stage. Preclinical studies include laboratory evaluation of product biological characteristics, chemistry and formulation, as well as in vitro and animal studies to assess the potential for adverse events and in some cases to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations for safety/toxicology studies.

An IND sponsor must submit the results of the preclinical studies, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, to the FDA as part of an IND. An IND is a request for authorization from the FDA to administer an investigational product to humans, and must become effective before human clinical trials may begin. Some long-term preclinical testing may continue after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time, the FDA raises concerns or questions related to one or more proposed clinical trials and places the trial on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Trials

The clinical stage of development involves the administration of the investigational product to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. 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 and assess efficacy, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur. Each protocol, and any subsequent amendments to the protocol, must be submitted to the FDA as part of the IND. Further, each clinical trial must be reviewed and approved by an IRB for each institution at which the clinical trial will be conducted to ensure that the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the informed consent form that must be provided to each clinical trial subject or his or her legal representative, and must monitor the clinical trial until completed. There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries.

A sponsor who wishes to conduct a clinical trial outside of the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of a BLA. The FDA will accept a well-designed and well-conducted foreign clinical trial not conducted under an IND if the study was conducted in accordance with GCP requirements, and the FDA is able to validate the data through an onsite inspection if deemed necessary.

Clinical trials generally are conducted in three sequential phases, known as Phase 1, Phase 2 and Phase 3, and may overlap or be combined, such that the objectives of multiple phases are addressed within the design of a single trial.

- Phase 1 clinical trials generally involve a small number of healthy volunteers or disease-affected patients who are initially exposed to a single dose and then multiple doses of the product candidate. The primary purpose of these clinical trials is to assess the metabolism, pharmacologic action, side effect tolerability and safety of the product candidate. When conducted in

disease-affected patients and including an endpoint of early activity or efficacy, such a trial may be a Phase 1/2 trial, comprising a Phase 1 portion and a Phase 2 portion.

- Phase 2 clinical trials involve studies in disease-affected patients to determine the dose required to produce the desired benefits. At the same time, safety and further pharmacokinetic and pharmacodynamic information is collected, possible adverse effects and safety risks are identified and a preliminary evaluation of efficacy is conducted. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials. Phase 2/3 trials may also be designed to sequentially address both dose finding and effectiveness in a single trial.
- Phase 3 clinical trials generally involve a large number of patients at multiple sites and are designed to provide the data necessary to demonstrate the effectiveness of the product for its intended use, its safety in use and to establish the overall benefit/risk relationship of the product candidate and provide an adequate basis for product labeling.

In August 2018, the FDA released a draft guidance entitled “Expansion Cohorts: Use in First-In-Human Clinical Trials to Expedite Development of Oncology Drugs and Biologics,” which outlines how developers can utilize an adaptive trial design commonly referred to as a seamless trial design in early stages of oncology biological product development (i.e., the Phase 1 first-in-human clinical trial) to compress the traditional three phases of trials into one continuous trial called an expansion cohort trial. Information to support the design of individual expansion cohorts are included in IND applications and assessed by FDA. Expansion cohort trials can potentially bring efficiency to biological product development and reduce developmental costs and time.

Post-approval trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of a BLA. Failure to exhibit due diligence with regard to conducting required Phase 4 clinical trials could result in withdrawal of licensure for biological products.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Progress reports detailing the results of the clinical trials, among other information, must be submitted at least annually to the FDA and written IND safety reports must be submitted to the FDA and the investigators for serious and unexpected suspected adverse events, findings from other studies or animal or in vitro testing that suggest a significant risk for human subjects, and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure.

Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB’s requirements or if the biological product candidate has been associated with unexpected serious harm to patients. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether a trial may move forward at designated check points based on access to certain data from the trial. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries. Concurrent with clinical trials, companies usually complete additional animal studies and also must develop additional information about the chemistry and physical characteristics of the biological product candidate as well as finalize a process for manufacturing the product candidate in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product and, among other things, companies must develop methods for testing the identity, strength, quality, purity and potency of the final product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over their shelf life.

FDA Review Process

Following completion of the clinical trials, data are analyzed to assess whether the investigational product is safe and effective for the proposed indicated use or uses. The results of preclinical studies and clinical trials are then submitted to the FDA as part of a BLA, along with proposed labeling, chemistry and manufacturing information to ensure product quality and other relevant data. The BLA may include both negative and ambiguous results of preclinical studies and clinical trials, as well as positive findings. Data may come from company-sponsored clinical trials intended to test the safety and efficacy of a product candidate’s use or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety, purity and potency of the investigational product to the satisfaction of FDA. FDA approval of a BLA must be obtained before a biologic may be marketed in the United States.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each BLA must be accompanied by a user fee. The FDA adjusts the PDUFA user fees on an annual basis. The sponsor of an approved BLA is also subject to an annual prescription drug

program fee. 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.

The FDA reviews all submitted BLAs before it accepts them for filing, and may request additional information rather than accepting the BLA for filing. The FDA decides whether to accept a BLA for filing within 60 days of receipt, and such decision could include a refusal to file by the FDA. Once the submission is accepted for filing, the FDA begins an in-depth review of the BLA. Under the goals and policies agreed to by the FDA under PDUFA, the FDA has ten months from the filing date in which to complete its initial review of an original BLA and respond to the applicant, and six months from the filing date of an original BLA designated for priority review. The FDA does not always meet its PDUFA goal dates for standard and priority BLAs, and the review process is often extended by FDA requests for additional information or clarification.

Before approving a BLA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMP requirements. 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. The FDA also may audit data from clinical trials to ensure compliance with GCP requirements. Additionally, the FDA may refer applications for novel products or products which 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, if any. The FDA is not bound by recommendations of an advisory committee, but it considers such recommendations when making decisions on approval. The FDA likely will reanalyze the clinical trial data, which could result in extensive discussions between the FDA and the applicant during the review process. After the FDA evaluates a BLA, it will issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the biologic with specific prescribing information for specific indications. A complete response letter indicates that the review cycle of the application is complete and the application will not be approved in its present form. A complete response letter usually describes all of the specific deficiencies in the BLA identified by the FDA. The complete response letter may require additional clinical data, pivotal Phase 3 clinical trial(s) as well as other significant and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. 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. Even if such data and information are submitted, the FDA may decide that the BLA does not satisfy the criteria for approval.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a biological product 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 the product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan drug designation for a biologic must be requested before submitting a BLA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

Orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user fee waivers. 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 drug exclusivity, which means that the FDA may not approve any other applications to market the same biological product for the same indication for seven years from the date of such approval, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity by means of greater effectiveness, greater safety or providing a major contribution to patient care or in instances of drug supply issues. Competitors, however, may receive approval of either a different product for the same indication or the same product for a different indication but that could be used off-label in the orphan indication. Orphan drug exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval before we do for the same product, as defined by the FDA, for the same indication we are seeking approval, or if our product is determined to be contained within the scope of the competitor’s product for the same indication or disease. If a biological product designated as an orphan drug receives marketing approval for an indication broader than that which is designated, it may not be entitled to orphan drug exclusivity. Orphan drug status in the European Union has similar, but not identical, requirements and benefits.

Expedited Development and Review Programs

The FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new biologics that meet certain criteria. Specifically, new biological product candidates are eligible for fast track designation if they are intended to treat a serious or life-threatening condition and preclinical or clinical data demonstrate the potential to address unmet medical needs for the

condition. Fast track designation applies to both the product and the specific indication for which it is being studied. The sponsor of a biological product candidate can request the FDA to designate the product for fast track status any time before receiving BLA approval, but ideally no later than the pre-BLA meeting.

Any product submitted to the FDA for marketing, including under a fast track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product candidate is eligible for priority review if it treats a serious or life-threatening condition and, if approved, would provide a significant improvement in safety and effectiveness compared to available therapies. The FDA will attempt to direct additional resources to the evaluation of an application for a new biologic designated for priority review in an effort to facilitate the review.

A product candidate may also be eligible for accelerated approval, if it treats a serious or life-threatening condition and generally provides a meaningful advantage over available therapies. In addition, it must demonstrate 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, or IMM, that is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a biological product candidate receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. If the FDA concludes that a biological product candidate shown to be effective can be safely used only if distribution or use is restricted, it will require such post-marketing restrictions, as it deems necessary to assure safe use of the product. If the FDA determines that the conditions of approval are not being met, the FDA can withdraw its accelerated approval for such biologic.

Additionally, a biological product candidate may be eligible for designation as a breakthrough therapy if the product candidate is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening condition and preliminary clinical evidence indicates that the product candidate may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints. The benefits of breakthrough therapy designation include the same benefits as fast track designation, plus intensive guidance from the FDA to ensure an efficient drug development program.

Fast track designation, priority review, accelerated approval and breakthrough therapy designation do not change the standards for approval, but may expedite the development or approval process.

Pediatric Information

Under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and efficacy of the biological product candidate 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 pediatric data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any biological product candidate for an indication for which orphan designation has been granted.

The Food and Drug Administration Safety and Innovation Act, or FDASIA, amended the FDCA to require that a sponsor who is planning to submit a marketing application for a drug that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, or PSP, within 60 days of an end-of-Phase 2 meeting or, if there is no such meeting, as early as practicable before the initiation of the registration-enabling trial. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The FDA and the sponsor must reach an agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from preclinical studies, early phase clinical trials as well as other clinical development programs.

Post-Marketing Requirements

Following approval of a new product, the manufacturer and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and record-keeping activities, reporting of adverse experiences, complying with promotion and advertising requirements, which include restrictions on promoting products for unapproved uses or patient populations (known as “off-label use”) and limitations on industry-sponsored scientific and educational activities. Although physicians may prescribe legally available products for off-label uses, manufacturers may not market or promote such uses. Prescription drug and biologic promotional materials must be submitted to the FDA in conjunction with their first use. Further, if there are any modifications to the biologic, including changes in indications, labeling or manufacturing processes or facilities, the applicant may be required to submit and obtain FDA approval of a new BLA or BLA supplement, which may require the development of additional data or preclinical studies and clinical trials. The FDA may also place other conditions on approvals including the requirement for a Risk

Evaluation and Mitigation Strategy, or REMS, to assure the safe use of the product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS. The FDA will not approve the BLA without an approved REMS, if required. A REMS 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. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. Product approvals may be withdrawn for non-compliance with regulatory standards or if problems occur following initial marketing.

FDA regulations require that products be manufactured in specific facilities and in accordance with cGMP regulations. We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products in accordance with cGMP regulations. These manufacturers must comply with cGMP regulations that require, among other things, quality control and quality assurance, the maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved biologics 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 cGMP requirements 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. The discovery of violations, including failure to conform to cGMP regulations, could result in enforcement actions, and the discovery of post-approval problems with a product may result in restrictions on a product, manufacturer or holder of an approved BLA, including recall.

U.S. Healthcare Reform and Other U.S. Healthcare Laws

Manufacturing, sales, promotion and other activities following product approval are also subject to regulation by numerous regulatory authorities in the United States in addition to the FDA, including the Centers for Medicare & Medicaid Services, or CMS, other divisions of the Department of Health and Human Services, the Department of Justice, the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency and state and local governments.

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. Arrangements with third-party payors and customers can expose pharmaceutical manufactures to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, or FCA, which may constrain the business or financial arrangements and relationships through which companies sell, market and distribute pharmaceutical products. In addition, transparency laws and patient privacy regulations by federal and state governments and by governments in foreign jurisdictions can apply to the manufacturing, sales, promotion and other activities of pharmaceutical manufactures. The applicable federal, state and foreign healthcare laws and regulations that can affect a pharmaceutical company's operations include:

- 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 the Medicare and Medicaid programs, or other federal healthcare 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. In addition, the government may assert that 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 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. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution;
- The federal civil and criminal false claims laws and civil monetary penalty laws, including the FCA, which prohibit any person or entity from, among other things, knowingly presenting, or causing to be presented, a false, fictitious or fraudulent claim for payment to, or approval by, the federal government or knowingly making, using or causing to be made or used a false record or statement, including providing inaccurate billing or coding information to customers or promoting a product off-label, 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 federal government. In addition, manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims. 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 anti-inducement law, which prohibits, among other things, the offering or giving of remuneration, which includes, without limitation, any transfer of items or services for free or for less than fair market value (with limited exceptions), to a Medicare or Medicaid beneficiary that the person knows or should know is likely to influence the beneficiary's selection of a particular

provider, practitioner or supplier of items or services reimbursable, whole or in part, by a federal or state governmental program;

- The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created 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 HIPAA without actual knowledge of the statute or specific intent to violate it;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose, among other things, specified requirements relating to the privacy, security and transmission of individually identifiable health information held by covered entities, including certain healthcare providers, health plans, and healthcare clearinghouses, as well as their respective business associates that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity, and their subcontractors that use, disclose or otherwise process individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions;
- The federal legislation commonly referred to as the Physician Payments Sunshine Act, created under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA, and its implementing regulations, which requires manufacturers of drugs, devices, biologics 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 CMS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare professions (such as physicians assistants and nurse practitioners),and teaching hospitals, as well as information regarding ownership and investment interests held by physicians and their immediate family members;
- Federal government price reporting laws, which require us to calculate and report complex pricing metrics in an accurate and timely manner to government programs;
- Federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and
- Analogous state laws and regulations, including: state anti-kickback and false claims laws, which may apply to our business practices, including, but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by any third-party payor, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to file reports with states regarding pricing and marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities; state and local laws requiring the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Pricing and rebate programs must comply with the Medicaid rebate requirements of the U.S. Omnibus Budget Reconciliation Act of 1990 and more recent requirements in the ACA. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act.

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, especially in light of the lack of applicable precedent and regulations with respect to certain laws. Federal and state 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 and settlements in the healthcare industry. Prohibitions or restrictions on sales or withdrawal of future marketed products could materially affect our business in an adverse way. Changes in

regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

Ensuring our business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert a company's attention from the business.

It is possible that governmental and enforcement authorities will conclude that a pharmaceutical manufacturer's business practices do not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. The failure to comply with any of these laws or regulatory requirements subjects companies to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in 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. Additionally, private individuals have the ability to bring actions on behalf of the U.S. government under the federal FCA as well as under the false claims laws of several states against a pharmaceutical manufacturer. The approval and commercialization of a pharmaceutical manufacturer's product candidates outside the United States will also likely subject it to foreign equivalents of the healthcare laws mentioned above, among other foreign laws. Lastly, if any of the physicians or other healthcare providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs, which may also adversely affect our business. Any action for violation of these laws, even if successfully defended, could cause a pharmaceutical company to incur significant legal expenses and divert management's attention from the operation of the business.

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 ACA was passed, which substantially changes the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA, among other things, subjects biological products to potential competition by lower-cost biosimilars, addresses 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, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and creates a new Medicare Part D coverage gap discount program, in which manufacturers must now, as amended by the Bipartisan Budget Act of 2018, effective January 1, 2019, 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 to coverage under Medicare Part D for the manufacturer's outpatient drugs.

There have been executive, judicial and congressional challenges. While Congress has not passed comprehensive repeal legislation, there have been a number of significant changes to the ACA and its implementation. For example, the Tax Cuts and Jobs Act of 2017, or Tax Act, included a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." 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. Thus, the ACA will remain in effect in its current form. Further, prior to the U.S. Supreme Court ruling, on January 28, 2021, President Biden issued an executive order to initiate a special enrollment period for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructs certain governmental agencies 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. It is unclear how any such challenges, and the healthcare reform measures of the Biden administration will impact the ACA and 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, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes 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 to the statute, will remain in effect through 2031 unless additional congressional action is taken. The Coronavirus Aid, Relief and Economic Security Act, or CARES Act, which was signed into law in March 2020, along with other COVID-19 relief legislation suspended the 2% Medicare sequester from May 1, 2020 through March 31, 2022.

Under current legislation, the actual reduction in Medicare payments will vary from 1% in 2022 to up to 3% in the final fiscal year of this sequester. 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 and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These laws may result in additional reductions in Medicare and other healthcare funding.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives which could limit the amounts that federal and state governments will pay for healthcare products and services and result in reduced demand for certain pharmaceutical products or additional pricing pressures.

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.

At the federal level, the former Trump administration used several means to propose or implement drug pricing reform, including through federal budget proposals, executive orders and policy initiatives. For example, on July 24, 2020 and September 13, 2020, the former Trump administration announced several executive orders related to prescription drug pricing that sought to implement several of the administration's proposals. As a result, the FDA released a final rule and guidance in September 2020 providing pathways for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020, HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The implementation of the rule has been delayed by the Biden administration from January 1, 2022 to January 1, 2023 in response to ongoing litigation. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers, the implementation of which have also been delayed until January 1, 2023. Further, in November 2020, CMS issued an interim final rule implementing the Most Favored Nation, or MFN, Model under which Medicare Part B reimbursement rates will be calculated for certain drugs and biologicals based on the lowest price drug manufacturers receive in Organization for Economic Cooperation and Development countries with a similar gross domestic product per capita. As a result of litigation challenging the Most Favored Nation Model, on December 27, 2021, CMS published a final rule that rescinded the Most Favored Nation model interim final rule. 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 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 to advance these principles. No legislation or administrative actions have been finalized to implement these principles. In addition, Congress is considering drug pricing as part of other reform initiatives.

At the state level, individual states are increasingly aggressive in passing legislation and implementing 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. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing.

We expect that additional foreign, federal and state healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, and result in reduced demand for our current product candidates and any future product candidates or additional pricing pressures. It is possible that additional governmental action is taken in response to the COVID-19 pandemic.

Legislative and regulatory proposals, and enactment of laws, at the foreign, federal and state levels, directed at containing or lowering the cost of healthcare, will continue into the future. Further, we cannot predict the likelihood, nature, or extent of healthcare reform initiatives that may arise from future legislation or administrative action, particularly as a result of the recent presidential election.

U.S. Patent-Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of FDA approval of our product candidates and any future product candidates we develop, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition

and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit restoration of the patent term of up to five years as compensation for patent term lost during product development and FDA regulatory review process. Patent-term restoration, however, cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent-term restoration period is generally one-half the time between the effective date of an IND and the submission date of a BLA plus the time between the submission date of a BLA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved biologic is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The USPTO in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may apply for restoration of patent term for our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant BLA.

An abbreviated approval pathway for biological products shown to be similar to, or interchangeable with, an FDA-licensed reference biological product was created by the Biologics Price Competition and Innovation Act of 2009 as part of the ACA. This amendment to the PHSA, in part, attempts to minimize duplicative testing. 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 product and the reference product in terms of safety, purity and potency, can be shown through analytical studies, animal studies and a clinical trial or trials. Interchangeability requires that a biological product be biosimilar to the reference product and that the product can be expected to produce the same clinical results as the reference product in any given patient and, for products administered multiple times to an individual, that the product and the reference product 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 biological product without such alternation or switch. A reference biological product is granted 12 years of data exclusivity from the time of first licensure of the product, and the FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after the date of first licensure of the reference product. "First licensure" typically means the initial date the particular product at issue was licensed in the United States. Date of first licensure does not include the date of licensure of (and a new period of exclusivity is not available for) a biological product if the licensure is for a supplement for the biological product or for a subsequent application by the same sponsor or manufacturer of the biological product (or licensor, predecessor in interest, or other related entity) for a change (not including a modification to the structure of the biological product) that results in a new indication, route of administration, dosing schedule, dosage form, delivery system, delivery device or strength, or for a modification to the structure of the biological product that does not result in a change in safety, purity, or potency. Therefore, one must determine whether a new product includes a modification to the structure of a previously licensed product that results in a change in safety, purity, or potency to assess whether the licensure of the new product is a first licensure that triggers its own period of exclusivity. Whether a subsequent application, if approved, warrants exclusivity as the "first licensure" of a biological product is determined on a case-by-case basis with data submitted by the sponsor.

Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing regulatory exclusivity periods. 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.

U.S. regulation of companion diagnostics

Our product candidates may require use of an *in vitro* diagnostic to identify appropriate patient populations. These diagnostics, often referred to as companion diagnostics, are regulated as medical devices. In the United States, the FDCA and its implementing regulations, and other federal and state statutes and regulations govern, among other things, medical device design and development, preclinical and clinical testing, premarket clearance or approval, registration and listing, manufacturing, labeling, storage, advertising and promotion, sales and distribution, export and import and post-market surveillance. Unless an exemption applies, companion diagnostic tests require marketing clearance or approval from the FDA prior to commercial distribution. The two primary types of FDA marketing authorization applicable to a medical device are premarket notification, also called 510(k) clearance, and premarket approval, or PMA approval.

If use of companion diagnostic is essential to safe and effective use of a drug or biologic product, then the FDA generally will require approval or clearance of the diagnostic contemporaneously with the approval of the therapeutic product. On August 6, 2014, the FDA issued a final guidance document addressing the development and approval process for "*In Vitro* Companion Diagnostic Devices." According to the guidance, for novel candidates such as our product candidates, a companion diagnostic device and its corresponding drug or biologic candidate should be approved or cleared contemporaneously by FDA for the use indicated in the therapeutic product labeling. The guidance also explains that a companion diagnostic device used to make treatment decisions in clinical trials of a biologic product candidate generally will be considered an investigational device, unless it is employed for an intended use for which the device is already approved or cleared. If used to make critical treatment decisions, such as patient selection,

the diagnostic device generally will be considered a significant risk device under the FDA's Investigational Device Exemption, or IDE, regulations. Thus, the sponsor of the diagnostic device will be required to comply with the IDE regulations. According to the guidance, if a diagnostic device and a drug are to be studied together to support their respective approvals, both products can be studied in the same investigational study, if the study meets both the requirements of the IDE regulations and the IND regulations. The guidance provides that depending on the details of the study plan and subjects, a sponsor may seek to submit an IND alone, or both an IND and an IDE. In July 2016, the FDA issued a draft guidance document intended to further assist sponsors of therapeutic products and sponsors of *in vitro* companion diagnostic devices on issues related to co-development of these products.

The FDA generally requires companion diagnostics intended to select the patients who will respond to cancer treatment to obtain approval of a PMA for that diagnostic contemporaneously with approval of the therapeutic. The review of these *in vitro* companion diagnostics in conjunction with the review of therapeutic candidates involves coordination of review by the FDA's Center for Biologics Evaluation and Research and by the FDA's Center for Devices and Radiological Health. The PMA process, including the gathering of clinical and preclinical data and the submission to and review by the FDA, can take several years or longer. It involves a rigorous premarket review during which the applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing and labeling. PMA applications are also subject to an application fee.

PMAs for certain devices must generally include the results from extensive preclinical and adequate and well-controlled clinical trials to establish the safety and effectiveness of the device for each indication for which FDA approval is sought. In particular, for a diagnostic, the applicant must demonstrate that the diagnostic produces reproducible results when the same sample is tested multiple times by multiple users at multiple laboratories. In addition, as part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with the Quality System Regulation, or QSR, which imposes elaborate testing, control, documentation and other quality assurance requirements.

If the FDA evaluations of both the PMA application and the manufacturing facilities are favorable, the FDA will either issue an approval letter or a not-approvable letter, which usually contains a number of conditions that must be met in order to secure the final approval of the PMA, such as changes in labeling, or specific additional information, such as submission of final labeling, in order to secure final approval of the PMA. If the FDA concludes that the applicable criteria have been met, the FDA will issue a PMA for the approved indications, which can be more limited than those originally sought by the applicant. The PMA can include post-approval conditions that the FDA believes necessary to ensure the safety and effectiveness of the device, including, among other things, restrictions on labeling, promotion, sale and distribution.

If the FDA's evaluation of the PMA or manufacturing facilities is not favorable, the FDA will issue an order denying approval of the PMA or issue a not approvable order. A not approvable letter will outline the deficiencies in the application and, where practical, will identify what is necessary to make the PMA approvable. The FDA may also determine that additional clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and then the data submitted in an amendment to the PMA. Once granted, PMA approval may be withdrawn by the FDA if compliance with post approval requirements, conditions of approval or other regulatory standards is not maintained or problems are identified following initial marketing. PMA approval is not guaranteed, and the FDA may ultimately respond to a PMA submission with a not approvable determination based on deficiencies in the application and require additional clinical trial or other data that may be expensive and time-consuming to generate and that can substantially delay approval.

After a device is placed on the market, it remains subject to significant regulatory requirements. Medical devices may be marketed only for the uses and indications for which they are cleared or approved. Device manufacturers must also establish registration and device listings with the FDA. A medical device manufacturer's manufacturing processes and those of its suppliers are required to comply with the applicable portions of the QSR, which cover the methods and documentation of the design, testing, production, processes, controls, quality assurance, labeling, packaging and shipping of medical devices. Domestic facility records and manufacturing processes are subject to periodic unscheduled inspections by the FDA. The FDA also may inspect foreign facilities that export products to the United States.

European Union Drug Development

In the European Union, or EU, our future products also may be subject to extensive regulatory requirements. As in the United States, medicinal products can be marketed only if a marketing authorization from the competent regulatory agencies has been obtained.

Similar to the United States, the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the EU, the EU member states

have transposed and applied the provisions of the Directive differently. This has led to significant variations in the member state regimes. Under the current regime, before a clinical trial can be initiated it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, or NCA, and one or more Ethics Committees, or ECs. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the member state where they occurred.

The EU clinical trials legislation currently is undergoing a transition process mainly aimed at harmonizing and streamlining clinical-trial authorization, simplifying adverse-event reporting procedures, improving the supervision of clinical trials and increasing their transparency. Recently enacted Clinical Trials Regulation EU No 536/2014 ensures that the rules for conducting clinical trials in the EU will be identical.

European Union Drug Review and Approval

In the European Economic Area, or EEA, which is comprised of the 28 member states of the EU and Iceland, Liechtenstein, Norway, medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations.

- The Community MA is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the EMA and is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced-therapy medicines such as gene-therapy, somatic cell-therapy or tissue-engineered medicines and medicinal products containing a new active substance indicated for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and other immune dysfunctions and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU.
- National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a member state of the EEA, this National MA can be recognized in other member states 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 state through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the member state in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. The competent authority of the RMS prepares a draft assessment report, a draft summary of the product characteristics, or SPC, and a draft of the labeling and package leaflet, which are sent to the other member state, referred to as the Member States Concerned, for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SPC, labeling, or packaging proposed by the RMS, the product is subsequently granted a national MA in all the member states (i.e., in the RMS and the Member States Concerned). Under the above described procedures, before granting the MA, the EMA or the competent authorities of the member states of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

European Union Orphan Designation and Exclusivity

In the European Union, the EMA's Committee for Orphan Medicinal Products grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than five in 10,000 persons in the European Union community (or where it is unlikely that the development of the medicine would generate sufficient return to justify the investment) and for which no satisfactory method of diagnosis, prevention or treatment has been authorized (or, if a method exists, the product would be a significant benefit to those affected).

In the European Union, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers and ten years of market exclusivity is granted following medicinal product approval. This period may be reduced to six years if the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity. Orphan drug designation must be requested before submitting an application for MA. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

European Union Drug Marketing

Much like the 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 European Union member states, such as the U.K. Bribery Act 2010. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain EU member states must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization as well as 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.

European Data Collection

The collection and use of personal health data in the EU is governed by the provisions of the Data Protection Directive, and as of May 2018 the General Data Protection Regulation, or GDPR. This directive imposes several requirements relating to the consent of the individuals to whom the personal data relates, the information provided to the individuals, notification of data processing obligations to the competent national data protection authorities and the security and confidentiality of the personal data. The Data Protection Directive and GDPR also impose strict rules on the transfer of personal data out of the EU to the United States. Failure to comply with the requirements of the Data Protection Directive, the GDPR, and the related national data protection laws of the EU member states may result in fines and other administrative penalties. The GDPR introduces new data protection requirements in the EU and substantial fines for breaches of the data protection rules. The GDPR regulations 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 ensuring compliance with the new data protection rules. This may be onerous and adversely affect our business, financial condition, results of operations and prospects.

Rest of the World Regulation

For other countries outside of the EU and the United States, such as 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. Additionally, the clinical trials must be conducted in accordance with GCP requirements and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we 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.

Reimbursement

Sales of our products, when and if approved, will depend, in part, on the extent to which our products will be covered by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. In the United States, no uniform policy of coverage and reimbursement for drug or biological products exists. Accordingly, decisions regarding the extent of coverage and amount of reimbursement to be provided for any of our products will be made on a payor-by-payor basis. As a result, coverage determination is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained. Additionally, we, or our collaborators, will be required to obtain coverage and reimbursement for our companion diagnostic tests separate and apart from the coverage and reimbursement we may seek for our product candidates.

The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost containment programs to limit the growth of government-paid health care costs, including price-controls, restrictions on reimbursement and requirements for substitution of biosimilars for branded prescription drugs. For example, the ACA contains provisions that may reduce the profitability of drug products through increased rebates for drugs reimbursed by Medicaid programs, extension of Medicaid rebates to Medicaid managed care plans, mandatory discounts for certain Medicare Part D beneficiaries and annual fees based on pharmaceutical companies' share of sales to federal healthcare programs. Adoption of general controls and measures, coupled with the tightening of restrictive policies in jurisdictions with existing controls and measures, could limit payments for pharmaceutical drugs.

The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the Secretary of the Department of Health and Human Services as a condition for states to receive federal matching funds for the manufacturer's outpatient drugs furnished to Medicaid patients. The ACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs from 15.1% of average manufacturer price, or AMP, to 23.1% of AMP and adding a new rebate

calculation for “line extensions” (i.e., new formulations, such as extended release formulations) of solid oral dosage forms of branded products, as well as potentially impacting their rebate liability by modifying the statutory definition of AMP. The ACA also expanded the universe of Medicaid utilization subject to drug rebates by requiring pharmaceutical manufacturers to pay rebates on Medicaid managed care utilization and by enlarging the population potentially eligible for Medicaid drug benefits. 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.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs. Unlike Medicare Part A and B, Part D coverage is not standardized. While all Medicare drug plans must give at least a standard level of coverage set by Medicare, Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive marketing approval. However, any negotiated prices for our products covered by a Part D prescription drug plan likely will be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors.

For a drug product to receive federal reimbursement under the Medicaid or Medicare Part B programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the AMP and Medicaid rebate amounts reported by the manufacturer. As of 2010, the ACA expanded the types of entities eligible to receive discounted 340B pricing, although, under the current state of the law, with the exception of children’s hospitals, these newly eligible entities will not be eligible to receive discounted 340B pricing on orphan drugs. In addition, as 340B drug pricing is determined based on AMP and Medicaid rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discount to increase.

As noted above, the marketability of any products for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide coverage and reimbursement. Obtaining coverage and adequate reimbursement for newly approved drugs and biologics is a time-consuming and costly process, and coverage may be more limited than the purposes for which a drug is approved by the FDA or comparable foreign regulatory authorities. Assuming coverage is obtained for a given product by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. Additionally, coverage policies and third-party reimbursement rates may change at any time. Patients who are prescribed medications for the treatment of their conditions, and their prescribing physicians, generally rely on third-party payors to reimburse all or part of the costs associated with their prescription drugs. Patients are unlikely to use products unless coverage is provided and reimbursement is adequate to cover all or a significant portion of the cost of prescribed products.

In addition, in most foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. 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. A 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. 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 European Union do not follow price structures of the United States and generally prices tend to be significantly lower.

Employees and Human Capital Resources

As of March 10, 2022, we had 56 full-time employees. We consider our relationship with our employees to be good.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our equity incentive plans are to attract, retain and reward personnel through the granting of stock-based compensation awards in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Corporate Information

Our common stock is listed on The Nasdaq Global Market under the symbol "SNSE".

Our principal executive offices are located at 451 D Street, Suite 710, Boston, MA 02210. Our telephone number is (240) 243-8000.

The Sensei design logo, “Sensei”, “ImmunoPhage”, “Phortress” and our other registered or common law trademarks, service marks, or trade names appearing in this Annual Report on Form 10-K are the property of Sensei Biotherapeutics, Inc. Other trade names, trademarks and service marks used in this Annual Report on Form 10-K are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this Annual Report on Form 10-K exclude the ® or TM symbols.

Available Information

Our website address is www.senseibio.com. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Exchange Act are made available free of charge on or through our website as soon as reasonably practicable after such reports are filed with, or furnished to, the United States Securities and Exchange Commission, or SEC. The information contained on, or that can be accessed through, our website is not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our website are intended to be inactive textual references only.

Item 1A. Risk Factors.

You should carefully consider the risks described below, as well as general economic and business risks and the other information in this Report on Form 10-K. The occurrence of Any of the events or circumstances described below or other adverse events could have a material adverse effect on our business, results of operations and financial condition and could cause the trading price of our common stock to decline. Additional risks or uncertainties not presently known to us or that we currently deem immaterial may also harm our business.

SUMMARY OF RISK FACTORS

The risk factors summarized below could materially harm our business, operating results, and/or financial condition, impair our future prospects, and/or cause the price of our common stock to decline. These risks are discussed more fully below. Material risks that may affect our business, financial condition, results of operations, and trading price of our common stock include the following:

- ***Risks Related to our Financial Position***
  - We have incurred significant losses in every year since our inception. We expect to continue to incur losses over the next several years and may never achieve or maintain profitability.
  - We will need additional funding to complete the development of our product candidates. A failure to obtain this necessary capital when needed could force us to delay, limit, reduce or terminate our product development or commercialization efforts.
  - Our business, operations and clinical development plans and timelines could be adversely affected by the effects of health epidemics, including the COVID-19 pandemic, on the manufacturing, clinical trial and other business activities performed by us or by third parties with whom we conduct business.
- ***Risks Related to the Development of our Product Candidates***
  - Our development efforts are in the early stages. All of our product candidates are in preclinical development. If we are unable to advance our product candidates through clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.
  - The development of product candidates with our ImmunoPhage platform represents an emerging approach to the treatment of cancer and infectious diseases and faces significant challenges and hurdles. We may not be successful in applying our ImmunoPhage platform to the discovery and development of commercially viable products.
  - Our business is highly dependent on the success of our product candidates that we advance into the clinic. All of our product candidates may require significant additional preclinical and clinical development before we may be able to seek regulatory approval for and launch a product commercially. If the clinical trials of any of our product candidates fail to demonstrate safety and efficacy to the satisfaction of the FDA or other comparable regulatory authorities, or do not otherwise produce favorable results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.
  - Interim data from our clinical trials that we announce or publish from time to time may change as more patients are enrolled and additional data become available.
  - We depend on timely enrollment of patients in our clinical trials for our product candidates. If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.
  - Clinical trials are difficult to design and implement, can be lengthy and expensive, involve uncertain outcomes and may not ultimately be successful.
- ***Risks Related to our Dependence on Third Parties***
  - We collaborate with third parties in connection with the development of our product candidates, and may depend upon future collaboration partners to commit to the research, development, manufacturing and marketing of our product candidates.
  - We rely, and expect to continue to rely, on third parties to conduct the preclinical and clinical trials for our product candidates, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials or failing to comply with applicable regulatory requirements.
- ***Risks Related to Regulatory Approval of our Product Candidates and Other Legal Compliance Matters***

- Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

- ***Risks Related to the Commercialization of our Product Candidates***
  - If we are unable to establish sales, marketing and distribution capabilities for our product candidates, or enter into sales, marketing and distribution agreements with third parties, we may not be successful in commercializing our product candidates, if approved.
  - We operate in a rapidly changing industry and face significant competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.
  - Even if any of our product candidates 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.
- ***Risks Related to our Intellectual Property***
  - If we are unable to obtain and maintain patent protection for our ImmunoPhage platform and phase-based cocktail technology and product candidates, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and biologics similar or identical to ours, and our ability to successfully commercialize our technology and product candidates may be impaired.
  - Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could significantly harm our business.
- ***Risks Related to our Business Operations***
  - We will need to grow the size of our organization, and we may experience difficulties in managing this growth.
  - Our future success depends on our ability to retain key members of senior management and to attract, retain and motivate qualified personnel.
- ***Risks Related to our Securities and our Status as a Public Company***
  - The trading price of our common stock may be volatile, and you could lose all or part of your investment.
  - If we fail to maintain an effective system of internal control over financial reporting which results in material weaknesses, we may be unable to accurately report our results of operations, meet our reporting obligations or prevent fraud, and investor confidence in our company and the market price of our common stock may be materially and adversely affected.

Risks Related to Our Financial Position

We have incurred significant losses in every year since our inception. We expect to continue to incur losses over the next several years and may never achieve or maintain profitability.

We have incurred significant net losses since our inception. Our net loss was $36.8 million and $20.1 million for the years ended December 31, 2021 and 2020, respectively. As of December 31, 2021, we had an accumulated deficit of $149.2 million. We have funded our operations to date primarily with proceeds from the sale of our equity securities and borrowings of convertible debt.

We have no products approved for commercial sale, have not generated any revenue from commercial sales of our product candidates, and are devoting substantially all of our financial resources and efforts to research and development of our ImmunoPhage platform and to our other product candidates. Investment in therapeutic 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 expect that it will take at least several years until any of our product candidates receive marketing approval and are commercialized, and we may never be successful in obtaining marketing approval and commercializing product candidates. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. These net losses will adversely impact our stockholders' equity and net assets and may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially as we:

- prepare to file INDs and then initiate clinical development of our product candidates, including SNS-101 and SNS-401-NG;
- continue the research and development of our other product candidates;
- invest in our ImmunoPhage platform;

- seek to discover and develop additional product candidates or acquire or in-license drugs, product candidates or technologies;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing and distribution infrastructure and scale up manufacturing capabilities to commercialize any product candidates for which we may obtain regulatory approval;
- manufacture our product candidates or otherwise secure the clinical and commercial supply of our product candidates;
- hire additional research and development and selling, general and administrative personnel;
- maintain, expand and protect our intellectual property portfolio; and
- incur additional costs associated with operating as a newly public company.

To become and remain profitable, we must succeed in developing and eventually commercializing products that generate significant revenue. Achievement will require us to be successful in a range of challenging activities, including completing preclinical studies and clinical trials of our product candidates, obtaining regulatory approval, manufacturing, marketing and selling any products for which we may obtain regulatory approval, as well as discovering and developing additional product candidates. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability.

Because of the numerous risks and uncertainties associated with the development and commercialization of therapeutic product candidates, we are unable to accurately predict the timing or amount of expenses or when, or if, we will be able to achieve and maintain profitability. If we are required by regulatory authorities to perform studies in addition to those currently expected, or if there are any delays in the initiation and completion of our clinical trials or the development of any of our product candidates, our expenses could increase and profitability could be further delayed.

Even if we 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 depress the value of our common stock and could impair our ability to raise capital, expand our business, maintain our research and development efforts or continue our operations. A decline in the value of our common stock could also cause you to lose all or part of your investment.

Our operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

As an organization, we have not demonstrated an ability to successfully complete late-stage clinical trials, obtain regulatory approvals, manufacture our product candidates at commercial scale or arrange for a third party to do so on our behalf, conduct sales and marketing activities necessary for successful commercialization, or obtain reimbursement in the countries of sale. We may encounter unforeseen expenses, difficulties, complications, and delays in achieving our business objectives. Our operating history makes any assessment of our future success or viability subject to significant uncertainty. If we do not address these risks successfully or are unable to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities, then our business will suffer. In addition, we will need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We will need additional funding to complete the development of our product candidates. A failure to obtain this necessary capital when needed could force us to delay, limit, reduce or terminate our product development or commercialization efforts.

We will require substantial additional funding to meet our financial needs and to pursue our business objectives. If we are unable to raise capital when needed, we could be forced to delay, reduce or altogether cease our product development programs or commercialization efforts.

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

- the scope, progress, results and costs of discovery, laboratory testing, manufacturing, preclinical and clinical development for our current and future product candidates;
- the development requirements of other product candidates that we may pursue;
- the timing and amounts of any milestone or royalty payments we may be required to make or may be entitled to receive under license agreements;
- the costs of building out our infrastructure including hiring additional clinical, quality control and manufacturing personnel;

- the costs, timing and outcome of regulatory review of our product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the costs of operating as a public company; and
- the extent to which we acquire or in-license other product candidates and technologies.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our product candidates or other research and development initiatives. Any of our current or future license agreements may also be terminated if we are unable to meet the payment or other obligations under the agreements.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.

We expect that significant additional capital may be needed in the future to continue our planned operations, including conducting clinical trials, commercialization efforts, expanded research and development activities and costs associated with operating a public company. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through any or a combination of securities offerings, debt financings, license and collaboration agreements and research grants. If we raise capital through securities offerings, such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our common stock.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a stockholder. Debt financing and preferred equity financing, if available, could result in fixed payment obligations, and we may be required to accept terms that restrict our ability to incur additional indebtedness, force us to maintain specified liquidity or other ratios or restrict our ability to pay dividends or make acquisitions.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may be required 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. In addition, we could also be required to seek funds through arrangements with collaborators or others at an earlier stage than otherwise would be desirable. If we raise funds through research grants, we may be subject to certain requirements, which may limit our ability to use the funds or require us to share information from our research and development. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to a third party to develop and market product candidates that we would otherwise prefer to develop and market ourselves. Raising additional capital through any of these or other means could adversely affect our business and the holdings or rights of our stockholders, and may cause the market price of our common stock to decline.

In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional funds through collaboration and licensing arrangements with third parties, we may have to relinquish some rights to our technologies or our product candidates on terms that are not favorable to us. Any additional capital raising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our current and future product candidates, if approved. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or altogether cease our research and development programs or future commercialization efforts.

Risks Related to the Development of our Product Candidates

Our development efforts are in the early stages. All of our product candidates are in preclinical development. If we are unable to advance our product candidates through clinical development, obtain regulatory approval and ultimately commercialize our product candidates, or experience significant delays in doing so, our business will be materially harmed.

There is no assurance that any future clinical trials of our product candidates will be successful or will generate positive clinical data and we may not receive marketing approval from the FDA or other regulatory agencies for any of our product candidates. Our product candidates are in preclinical development. There can be no assurance that the FDA will permit the INDs for our other product candidates to go into effect in a timely manner or at all. Without the IND, we will not be permitted to conduct clinical trials in the United States.

Biopharmaceutical development is a long, expensive and uncertain process, and delay or failure can occur at any stage of any of our clinical trials. Failure to obtain regulatory approval for our product candidates will prevent us from commercializing and marketing our product candidates. The success in the development of our product candidates will depend on many factors, including:

- completing preclinical studies;
- submission of INDs for and receipt of allowance to proceed with our planned clinical trials or other future clinical trials;
- initiating, enrolling, and completing clinical trials;
- obtaining positive results from our preclinical studies and clinical trials that support a demonstration of efficacy, safety, and durability of effect for our product candidates;
- receiving approvals for commercialization of our product candidates from applicable regulatory authorities;
- establishing sales, marketing and distribution capabilities and successfully launching commercial sales of our products, if and when approved, whether alone or in collaboration with others;
- acceptance of our products, if and when approved, by patients, the medical community and third-party payors; manufacturing our product candidates at an acceptable cost; and
- maintaining and growing an organization of scientists, medical professionals and business people who can develop and commercialize our products and technology.

Many of these factors are beyond our control, including the time needed to adequately complete clinical testing and the regulatory submission process. It is possible that none of our product candidates will ever obtain regulatory approval, even if we expend substantial time and resources seeking such approval. If we do not achieve one or more of these factors in a timely manner or at all, or any other factors impacting the successful development of biopharmaceutical products, we could experience significant delays or an inability to successfully develop our product candidates, which would materially harm our business.

The development of product candidates with our ImmunoPhage platform represents an emerging approach to cancer treatment and faces significant challenges and hurdles. We may not be successful in applying our ImmunoPhage platform to the discovery and development of commercially viable products.

We have concentrated our primary research and development efforts on our ImmunoPhage platform which utilizes the power of bacteriophage to facilitate the creation of vaccines for enhanced immune system activation. Our future success is highly dependent on the successful development and manufacture of our product candidates. We do not currently have any approved or commercialized products. Because bacteriophage-based therapies represent a relatively new field of cellular immunotherapy and cancer treatment generally, developing and commercializing our product candidates subjects us to a number of risks and challenges, including:

- obtaining regulatory approval for our product candidates, as the FDA and other regulatory authorities have limited experience with phage-based therapies for cancer;
- patients receiving chemotherapy in conjunction with the delivery of our product candidates, which may increase the risk of adverse side effects of our product candidates;
- sourcing clinical and, if approved, commercial supplies of the materials used to manufacture our product candidates;
- developing product candidates with desired properties, while avoiding adverse reactions;
- establishing manufacturing capacity suitable for the manufacture of our product candidates in line with expanding enrollment in our clinical studies and our projected commercial requirements;
- achieving cost efficiencies in the scale-up of our manufacturing capacity;

- developing protocols for the safe administration of our product candidates;
- educating medical personnel regarding our phage-based technologies and the potential side effect profile of each of our product candidates; and
- the availability of coverage and adequate reimbursement from third-party payors for our novel and personalized therapies in connection with commercialization of any approved product candidates.

We may not be able to successfully develop our phage-based product candidates or any other product candidates in a manner that will yield products that are safe and effective, scalable or profitable.

Moreover, physicians, hospitals and third-party payors often are slow to adopt new products, technologies and treatment practices that require additional upfront costs and training. Treatment centers may not be willing or able to devote the personnel and establish other infrastructure required for the administration of our therapies. Based on these and other factors, health systems, hospitals and payors may decide that the benefits of this new therapy do not or will not outweigh its costs.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

We do not have any products that have gained regulatory approval. Our business is substantially dependent on our ability to obtain regulatory approval for our preclinical programs. We cannot commercialize product candidates in the United States without first obtaining regulatory approval for the product from the FDA. Before obtaining regulatory approvals for the commercial sale of any product candidate for a particular indication, we must demonstrate with substantial evidence gathered in preclinical and clinical studies, that the product candidate is safe and effective for that indication and that the manufacturing facilities, processes and controls are adequate with respect to such product candidate. Prior to seeking approval for any of our product candidates, we will need to confer with the FDA and other regulatory authorities regarding the design of our clinical trials and the type and amount of clinical data necessary to seek and gain approval for our product candidates.

The time required to obtain approval by the FDA and other regulatory authorities is unpredictable and typically takes many years following the commencement of preclinical studies and clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. It is possible that none of our existing product candidates or any future product candidates will ever obtain regulatory approval.

Our product candidates could fail to receive regulatory approval from the FDA or other comparable regulatory authorities for many reasons, including:

- disagreement with the design, protocol or conduct of our clinical trials, including with respect to our ImmunoPhage cocktail approach;
- failure to demonstrate that a product candidate is safe and effective for its proposed indication;
- failure of clinical trials to meet the level of statistical significance required for approval;
- failure to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- disagreement with our interpretation of data from preclinical studies or clinical trials;
- insufficiency of data collected from clinical trials of our product candidates to support the submission and filing of a Biologics License Application, or BLA, or other submission or to obtain regulatory approval;
- failure to obtain approval of the manufacturing processes or our facilities;
- changes in the approval policies or regulations that render our preclinical and clinical data insufficient for approval; or
- lack of adequate funding to complete a clinical trial in a manner that is satisfactory to the applicable regulatory authority.

Many of these risks are beyond our control, including the risks related to clinical development. If we are unable to develop, receive regulatory approval for, or successfully commercialize our product candidates, or if we experience delays as a result of any of these risks or otherwise, our business could be materially harmed.

The FDA or a comparable regulatory authority may require more information, including additional preclinical or clinical data to support approval, including data that would require us to perform additional clinical trials or modify our manufacturing processes, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program. If we change our manufacturing processes, we may be required to conduct additional clinical trials or other studies, which also could delay or prevent approval of our product candidates. If we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer indications than we request (including failing to approve the most commercially promising indications), may limit indications, may grant approval contingent on the performance of costly post-marketing clinical trials or other post-marketing commitments, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate.

Even if a product candidate were to successfully obtain approval from the FDA or other comparable regulatory authorities in other jurisdictions, any approval might contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, or may be subject to burdensome post-approval study or risk management requirements. If we are unable to obtain regulatory approval for one of our product candidates in one or more jurisdictions, or any approval contains significant limitations, we may not be able to obtain sufficient funding to continue the development of that product or generate revenues attributable to that product candidate. Also, any regulatory approval of our current or future product candidates, once obtained, may be withdrawn.

Our business is highly dependent on the success of our product candidates that we advance into the clinic. All of our product candidates may require significant additional preclinical and clinical development before we may be able to seek regulatory approval for and launch a product commercially and we may not be successful in our efforts to build a pipeline of product candidates.

A key element of our strategy is utilizing our ImmunoPhage platform to develop what we believe are safer and more effective and personalized phage-based vaccines. We currently have no products that are approved for commercial sale and may never be able to develop marketable products. We are very early in our development efforts, and our product candidates are not yet in clinical development. If any of our product candidates encounters safety or efficacy problems, development delays, regulatory issues or other problems, our development plans and business would be significantly harmed. We have adapted our platform to generate personalized, off-the-shelf product candidates based on a cocktail of common and patient-specific antigens, dosed together as an array of customized, multi-antigen phage configurations in a modular approach. However, we may not be able to develop product candidates that are safe and effective, or which compare favorably with other commercially available alternatives. Even if we are successful in continuing to build our pipeline and develop personalized, off-the-shelf product candidates, the potential product candidates that we identify may not be suitable for clinical development, including as a result of lack of safety, lack of tolerability, or other characteristics that indicate that they are unlikely to be products that will receive marketing approval, achieve market acceptance or obtain reimbursements from third-party payors. We cannot provide you with any assurance that we will be able to successfully advance any of these additional product candidates through the development process. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development or commercialization for many reasons, including the following:

- our ImmunoPhage platform may not be successful in identifying additional product candidates;
- we may not be able or willing to assemble sufficient resources to acquire or discover additional product candidates;
- our product candidates may not succeed in preclinical or clinical testing;
- a product candidate may on further study be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;
- competitors may develop alternatives that render our product candidates obsolete or less attractive;
- product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- the market for a product candidate may change during our development program so that the continued development of that product candidate is no longer reasonable;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors, if applicable.

If any of these events occur, we may be forced to abandon our development efforts for a program or programs, or we may not be able to identify, discover, develop, or commercialize additional product candidates, which would have a material adverse effect on our business and could potentially cause us to cease operations.

If we do not successfully develop and commercialize product candidates or collaborate with others to do so, we will not be able to obtain product revenue in future periods, which could significantly harm our financial position and adversely affect the trading price of our common stock.

We are developing product candidates designed to produce responses against novel targets through a cocktail therapy approach for which there is little clinical experience, and the FDA or other regulatory authorities may not consider the endpoints of our clinical trials to predict or provide clinically meaningful results.

We are developing a human mAb program targeting the novel immune checkpoint VISTA. There are currently no approved therapies that target VISTA in the field of oncology. To evaluate these product candidates, we are also pioneering an adaptive clinical trial design that enables substitution of ImmunoPhage cocktail components throughout clinical development. As a result of the novelty of our targets as well as the novelty of our anticipated clinical trial design, the design and conduct of clinical trials of our product candidates or any future product candidate may take longer, be more costly or be less effective. There may also be inconsistent or contradictory efficacy or safety results amongst different cocktail product candidates for different patients in the same clinical trial. In some cases, we may use endpoints or methodologies that regulatory authorities may not consider to be clinically meaningful and that we may not continue to use in clinical trials or that we may determine after the initiation of the trial to no longer be an appropriate endpoint or methodology. Any such regulatory authority may require evaluation of additional or different clinical endpoints in our clinical trials or ultimately determine that these clinical endpoints do not support marketing approval. In addition, if we are required to use additional or different clinical endpoints by regulatory authorities, our product candidates may not achieve or meet such clinical endpoints in our clinical trials. Even if a regulatory authority finds our clinical trial success criteria to be sufficiently validated and clinically meaningful, we may not achieve the pre-specified endpoint to a degree of statistical significance in any pivotal or other clinical trials we may conduct for our product candidate. Further, even if we do achieve the pre-specified criteria, our trials may produce results that are unpredictable or inconsistent with the results of other efficacy endpoints in the trial. Regulatory authorities also weigh the benefits of a product against its risks and may not view the efficacy and safety results we product with our adaptive clinical trial design as supportive of approval

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or have a greater likelihood of success.

Because we have limited financial and management resources, we focus on research programs and product candidates that we identify for specific indications. 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. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. For example, in June 2021

we announced the discontinuation of our SNS-301 program in order to focus on our current programs. SNS-301 had been our lead product candidate and only clinical stage program. 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
.

If the clinical trials of any of our product candidates fail to demonstrate safety and efficacy to the satisfaction of the FDA or other comparable regulatory authorities, or do not otherwise produce favorable results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

Our product candidates are still in the preclinical development stage, and the risk of failure of preclinical programs is high. Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies to obtain regulatory clearance to initiate human clinical trials. We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA or other regulatory authorities will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin. It is impossible to predict accurately when or if any of our product candidates will prove effective or safe in humans and will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the commercial sale of any of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication. Clinical testing is expensive, difficult to design

and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing.

We may experience numerous unforeseen events prior to, during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize any of our product candidates, including:

- the FDA or other comparable regulatory authority may disagree as to the number, design or implementation of our clinical trials, or may not interpret the results from clinical trials as we do;
- regulators or institutional review boards may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may not reach agreement on acceptable terms with prospective clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different clinical trial sites;
- clinical trials of our product candidates may produce negative or inconclusive results;
- we may decide, or regulators may require us, to conduct additional preclinical studies or clinical trials or abandon our product development programs;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, participants may drop out of these clinical trials at a higher rate than we anticipate or we may fail to recruit suitable patients to participate in a trial;
- 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;
- regulators may issue a clinical hold, or regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research 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 our product candidates may be greater than we anticipate;
- the FDA or other comparable regulatory authorities may fail to approve our manufacturing processes or facilities;
- 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;
- our product candidates may have undesirable side effects or other unexpected characteristics, particularly given their novel, first-in-human application, causing us or our investigators, regulators or institutional review boards to suspend or terminate the clinical trials; and
- the approval policies or regulations of the FDA or other comparable regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

To the extent that the results of the trials are not satisfactory for the FDA or regulatory authorities in other countries or jurisdiction to approve our BLA or other comparable application, the commercialization of our product candidates may be significantly delayed, or we may be required to expend significant additional resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates.

Clinical trials are difficult to design and implement, can be lengthy and expensive, involve uncertain outcomes and may not ultimately be successful.

It is impossible to predict when or if any of our current or future product candidates will prove effective and safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical studies and then conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Human clinical trials are expensive, can take many years to complete, and are difficult to design and implement, in part because they are subject to rigorous regulatory requirements. The design of a clinical trial can determine whether its results will support approval of a product and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. As an organization, we have limited experience designing clinical trials and may be unable to design and execute a clinical trial to support regulatory approval. There is a high failure rate for oncology product candidates proceeding through clinical trials, which may be higher for our product candidates because they are based on a new approach. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in preclinical testing and earlier-stage clinical trials. Data obtained from preclinical and clinical activities are subject

to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including changes in regulatory policy during the period of our product candidate development. Any such delays could negatively impact our business, financial condition, results of operations and prospects.

Success in preclinical studies or clinical trials may not be predictive of results in future clinical trials.

Results from preclinical studies and early clinical trials may not be predictive of the success of later clinical trials, and interim results of clinical trials are not necessarily predictive of final results. We have not yet begun clinical trials for our product candidates. For that reason, we do not know whether these candidates will be effective for the intended indications or safe in humans. Our product candidates may fail to show the desired safety and efficacy in clinical development despite positive results observed in preclinical studies or having successfully advanced through initial clinical trials. This failure to establish sufficient efficacy and safety could cause us to abandon clinical development of our product candidates.

Additionally, some of our past, planned and ongoing clinical trials utilize an open-label study design. An "open-label" clinical trial is one where both the patient and investigator know whether the patient is receiving the investigational product candidate or either an existing approved therapy or placebo. Most typically, open-label clinical trials test only the investigational product candidate and sometimes may do so at different dose levels. Open-label clinical trials are subject to various limitations that may exaggerate any therapeutic effect, as patients in open-label clinical trials are aware when they are receiving treatment. Open-label clinical trials may be subject to a "patient bias" where patients perceive their symptoms to have improved merely due to their awareness of receiving an experimental treatment. Moreover, patients selected for early clinical studies often include the most severe sufferers and their symptoms may have been bound to improve notwithstanding the new treatment. In addition, open-label clinical trials may be subject to an "investigator bias" where those assessing and reviewing the physiological outcomes of the clinical trials are aware of which patients have received treatment and may interpret the information of the treated group more favorably given this knowledge.

Interim topline and preliminary data from our clinical trials that we announce or publish from time to time may change as more patients are enrolled and additional 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 publish interim topline or preliminary data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. 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. Preliminary or topline data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim 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 clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available or as patients from our clinical trials continue other treatments for their disease. Adverse differences between preliminary or interim data and final data could significantly harm our reputation and 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 agencies, 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 potential of the particular program, the likelihood of marketing approval or commercialization of the particular product candidate, any approved product, and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is derived from information that is typically extensive, 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, operating results, prospects or financial condition.

We depend on timely enrollment of patients in our clinical trials for our product candidates. If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

Identifying and qualifying patients to participate in clinical trials of our product candidates is critical to our success. 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 study until its conclusion. The enrollment of patients depends on many factors, including:

- the patient eligibility criteria defined in the protocol;
- the number of patients with the disease or condition being studied;
- the perceived risks and benefits of the product candidate in the trial;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating or drugs that may be used off-label for these indications;
- the size and nature of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to study sites;
- the design of the clinical trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- competing clinical trials for similar therapies or other new therapeutics;
- our ability to obtain and maintain patient consents;
- the risk that patients enrolled in clinical trials will drop out of the clinical trials before completion of their treatment; and
- factors we may not be able to control, such as current or potential pandemics, including the COVID-19 pandemic, that may limit patients, principal investigators or staff or clinical site available.

In addition, 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 could further reduce the number of patients who are available for our clinical trials in these clinical trial sites. Moreover, because our product candidates represent a departure from more commonly used methods for cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, such as chemotherapy and antibody therapy, rather than enroll patients in our clinical trials

Delays in patient enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these clinical trials and adversely affect our ability to advance the development of our product candidates. In addition, many of the factors that may lead to a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

We may seek Fast Track designation for some or all of our current or future product candidates, but we may be unable to obtain such designations or, where obtained, we may be unable to maintain such designations or obtain or maintain the benefits associated with such designations.

We may seek Fast Track designation for some or all of our other current and future product candidates, but we may be unable to obtain such designation or, where obtained, we may be unable to maintain such designation or obtain or maintain the benefits associated with such designation.

If a biologic is intended for the treatment of a serious or life-threatening condition and the product demonstrates the potential to address unmet medical needs for this condition, the product sponsor may apply for FDA Fast Track designation for a particular indication. We may seek Fast Track designation for some or all of our other current and future product candidates, but there is no assurance that the FDA will grant this status to any of our proposed product candidates. Marketing applications filed by sponsors of products in Fast Track development may qualify for priority review under the policies and procedures offered by the FDA, but the Fast Track designation does not assure any such qualification or ultimate marketing approval by the FDA. The FDA has broad discretion whether or not to grant Fast Track designation, so even if we believe a particular product candidate is eligible for this designation, there can be no assurance that the FDA would decide to grant it. Even if we do receive Fast Track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures, and receiving a Fast Track designation does not provide assurance of ultimate FDA approval. In addition, the FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program. In addition, the FDA may withdraw any Fast Track designation at any time.

The market opportunities for certain of our product candidates may be limited to those patients who are ineligible for or have failed prior treatments and, therefore, may be small, and our projections regarding the size of the addressable market may be incorrect.

Our immunotherapy approach is based on novel ideas and technologies that are unproven and may not result in marketable products, which makes it difficult for us to predict the time and cost of product development and potential for regulatory approval. Cancer therapies are sometimes characterized as first line, second line or third line, and the FDA often approves new therapies initially only for third line use. When cancers are detected they are treated with first line of therapy with the intention of curing the cancer. This treatment generally consists of chemotherapy, radiation, antibody drugs, tumor targeted small molecules, or a combination of these. If the patient's cancer relapses, then the patient is given a second line or third line therapy, which can consist of more chemotherapy, radiation, antibody drugs, tumor targeted small molecules, or a combination of these. Generally, the higher the line of therapy, the lower the chance of a cure. With third or higher line, the goal of the therapy is to control the growth of the tumor and extend the life of the patient, as a cure is unlikely to happen. Patients are generally referred to clinical trials in these situations.

There is no guarantee that any of our product candidates, even if approved, would be approved for an early line of therapy. In addition, we may have to conduct additional large randomized clinical trials prior to gaining approval for the earlier line of therapy.

Our projections of both the number of people who have the cancers we are targeting, as well as the size of the patient population subset of people with these cancers in a position to receive first, second, third and fourth line therapy and who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations, or market research and may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these cancers. The number of patients may turn out to be fewer than expected. Additionally, the potentially addressable patient population for our product candidates may be limited or may not be amenable to treatment with our product candidates. Even if we obtain significant market share for our product candidates, because the potential target populations are small, we may never achieve significant revenues without obtaining regulatory approval for additional indications or as part of earlier lines of therapy.

Adverse side effects or other safety risks associated with our product candidates could delay or preclude approval, cause us to suspend or discontinue clinical trials, cause us to abandon product candidates, could limit the commercial profile of an approved label, or could result in significant negative consequences following any potential marketing approval.

Our clinical trials include cancer patients who are very sick and whose health is deteriorating, and we expect that additional clinical trials of our other product candidates will include similar patients with deteriorating health. It is possible that some of these patients may experience similar side effects and that additional patients may die during our clinical trials for various reasons. The causes of death could include receiving our product candidates because the patient's disease is too advanced or because the patient experiences medical problems that may not be related to our product candidate. Even if the patient deaths are not related to our product candidate, the deaths could affect perceptions regarding the safety of our product candidate.

Patient deaths and severe side effects caused by our product candidates, or by products or product candidates of other companies that are thought to have similarities with our therapeutic candidates, could result in the delay, suspension, clinical hold or termination of our clinical trials, the FDA or other regulatory authorities for a number of reasons. If we elect or are required to delay, suspend or terminate any clinical trial of any product candidates that we develop, the commercial prospects of such product candidates will be harmed and our ability to generate product revenues from any of these product candidates would be delayed or eliminated. Serious adverse events observed in clinical trials could hinder or prevent market acceptance of the product candidate at issue. Any of these occurrences may harm our business, prospects, financial condition and results of operations significantly.

Additionally, if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, including during any long-term follow-up observation period recommended or required for patients who receive treatment using our products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit their approval of such products;
- regulatory authorities may require the addition of labeling statements, such as a "boxed" warning or a contraindication;
- we may be required to create a Risk Evaluation and Mitigation Strategy, or REMS, plan, which could include a medication guide outlining the risks of such side effects for distribution to patients, a communication plan for healthcare providers, and/or other elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools;
- we may decide to remove such products from the marketplace;

- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of the foregoing could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved, and could significantly harm our business, results of operations, and prospects.

We may not be successful in achieving cost of goods at commercial scale that provide for an attractive margin.

We have limited commercial manufacturing experience and may underestimate the cost and time required to establish manufacturing capacity at commercial scale, or overestimate cost reductions from economies of scale that can be realized with manufacturing processes. While we are planning to internally develop this capability, including plans for the potential construction of our own manufacturing facility, we have also held discussions with multiple contract manufacturing organizations regarding commercial-stage manufacturing. We may ultimately be unable to manage the cost of goods for our product candidates to levels that will allow for a margin in line with our expectations and return on investment if those product candidates are commercialized.

We may not be successful in manufacturing our product candidates on our own for use in clinical trials and, if approved, for commercial sale.

As we advance into later-stage clinical trials and additional indications, we intend to expand our current manufacturing capabilities to support larger scale clinical trials and the potential commercialization of our product candidates. However, we have not yet constructed or acquired manufacturing facilities or capabilities that would allow us to meet commercial-scale quantities.

The implementation of this plan is subject to many risks. For example, the expansion of a manufacturing facility is a complex endeavor requiring knowledgeable individuals. Expanding our internal manufacturing infrastructure will rely upon finding personnel with an appropriate background and training to staff and operate the facility. Should we be unable to find these individuals, we may need to rely on external contractors or train additional personnel to fill the needed roles. There are a small number of individuals with relevant experience and the competition for these individuals is high.

We may never be successful in expanding our own manufacturing capability to support large scale clinical trials and commercialization of product candidates, if approved. We may establish additional manufacturing sites as we expand our commercial footprint to multiple geographies, which may lead to regulatory delays or prove costly. Even if we are successful, our manufacturing operations could be affected by cost-overruns, unexpected delays, equipment failures, labor shortages, natural disasters, power failures and numerous other factors, or we may not be successful in establishing sufficient capacity to produce our product candidates in sufficient quantities to meet the requirements for the potential launch or to meet potential future demand, all of which could prevent us from realizing the intended benefits of our manufacturing strategy and have a material adverse effect on our business.

The manufacture of our product candidates is complex and we may encounter difficulties in production, particularly with respect to process development or scaling-out of our manufacturing capabilities. If we 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.

We have developed a process for manufacturing and stock storing bacteriophage viruses and we believe that our current processes are readily scalable and suitable for commercialization. Each manufacturing process must be validated through the performance of process validation runs to guarantee that the facility, personnel, equipment, and process work as designed. We have not yet manufactured or processed our product candidates on a commercial scale and may not be able to do so for any of our product candidates.

We may encounter difficulties in production, particularly in scaling up or out, validating the production process, and assuring high reliability of the manufacturing process. These problems include delays or break-downs in logistics and shipping, difficulties with production costs and yields, quality control, and product testing, operator error, lack of availability of qualified personnel, as well as failure to comply with strictly enforced federal, state and foreign regulations.

Furthermore, if microbial, viral or other contaminations are discovered in our supply of product candidates or in the manufacturing facilities, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot assure you that any of these or other issues relating to the manufacture of our product candidates will not occur in the future. Any delay or interruption in the supply of clinical trial supplies could delay the completion of clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to begin new clinical trials at additional expense or terminate clinical trials completely.

Manufacturing facilities also require commissioning and validation activities to demonstrate that they operate as designed, and are subject to government inspections by the FDA and other comparable regulatory authorities. If we are unable to reliably produce products to specifications acceptable to the regulatory authorities, we may not obtain or maintain the approvals we need to manufacture our products. Further, manufacturing facilities may fail to pass government inspections prior to or after the commercial launch of our product candidates, which would cause significant delays and additional costs required to remediate any deficiencies identified by the regulatory authorities. 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, financial condition, results of operations and growth prospects.

Prior treatments can alter the cancer and negatively impact chances for achieving clinical activity with our ImmunoPhage product candidates.

Patients with head and neck and other cancers typically receive highly toxic lympho-depleting chemotherapy as their initial treatments that can impact the patient's responses to new therapies. Patients could also have received prior therapies that target the same target antigen on the cancer cells as our intended ImmunoPhage and thereby lead to a selection of cancer cells with low or no expression of the target. As a result, our product candidates may not recognize the cancer cell and may fail to achieve clinical activity. If any of our product candidates do not achieve a sufficient level of clinical activity, we may discontinue the development of that product candidate, which could have an adverse effect on the value of our common stock.

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us or any future collaboration partners from obtaining approvals for the commercialization of any other product candidate we develop.

Any product candidate we may develop and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. We have not received approval to market any product candidates from regulatory authorities in any jurisdiction and it is possible that none of the product candidates we may seek to develop in the future will ever obtain regulatory approval. We have no experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party contract research organizations, or CROs, or regulatory consultants to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the biologic product candidate's safety, purity, efficacy and potency. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Any product candidates we develop may not be effective, may be only moderately effective, or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity, and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent marketing approval of a product candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

If we experience delays in obtaining approval or if we fail to obtain approval of any product candidates we may develop, the commercial prospects for those product candidates may be harmed, and our ability to generate revenues will be materially impaired.

Risks Related to our Dependence on Third Parties

We collaborate with third parties in connection with the development of our product candidates, and may depend upon future collaboration partners to commit to the research, development, manufacturing and marketing of our product candidates.

We collaborate with third parties for the development of our product candidates, including, for instance, our collaboration with the University of Washington pursuant to which we are conducting preclinical studies for our SNS-401 program. We may enter into additional collaborations for our other current or future product candidates or technologies. We cannot control the timing or quantity of resources that our existing or future collaborators will dedicate to research, preclinical and clinical development, manufacturing or marketing of our products. Our collaborators may not perform their obligations according to our expectations or standards of quality. Our collaborators could terminate our existing agreements for a number of reasons.

In order to optimize the launch and market penetration of certain of our future product candidates, we may enter into distribution and marketing agreements with pharmaceutical industry leaders. For these product candidates, we would not market our products alone once they have obtained marketing authorization. The risks inherent in entry into these contracts are as follows:

- the negotiation and execution of these agreements is a long process that may not result in an agreement being signed or that can delay the development or commercialization of the product candidate concerned;
- these agreements are subject to cancellation or non-renewal by our collaborators, or may not be fully complied with by our collaborators;
- in the case of a license granted by us, we lose control of the development of the product candidate licensed; in such cases, we would only have limited control over the means and resources allocated by our partner for the commercialization of our product; and
- collaborators may not properly obtain, maintain, enforce, or defend our intellectual property or proprietary rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our proprietary information or expose us to potential litigation.

Should any of these risks materialize, or should we fail to find suitable collaborators, this could have a material adverse effect on our business, prospects, financial condition and results of operations.

We have entered, and may in the future enter into, partnership agreements with third parties for the development and commercialization of our product candidates. Our prospects with respect to those product candidates will depend in significant part on the success of those collaborations.

The advancement of our product candidates and development programs and the potential commercialization of our current and future product candidates will require substantial additional cash to fund expenses. For some of our programs, we may decide to collaborate with additional pharmaceutical and biotechnology companies with respect to development and potential commercialization. As such, we have entered into and may seek to enter into additional collaborations or partnerships with third parties for the development and potential commercialization of our product candidates.

We face significant competition in seeking appropriate collaborators. Should we seek to collaborate with a third party with respect to a prospective development program, we may not be able to locate a suitable partner or to enter into an agreement on commercially reasonable terms or at all. Even if we succeed in securing partners for the development and commercialization of our product candidates, we have limited control over the time and resources that our partners may dedicate to the development and commercialization of our product candidates. These partnerships pose a number of risks, including the following:

- partners may not have sufficient resources or decide not to devote the necessary resources due to internal constraints such as budget limitations, lack of human resources or a change in strategic focus;
- partners may believe our intellectual property is not valid or is unenforceable or the product candidate infringes on the intellectual property rights of others;
- partners may dispute their responsibility to conduct development and commercialization activities pursuant to the applicable collaboration, including the payment of related costs or the division of any revenues;
- partners may decide to pursue a competitive product developed outside of the collaboration arrangement;
- partners may not be able to obtain, or believe they cannot obtain, the necessary regulatory approvals; or
- partners may delay the development or commercialization of our product candidates in favor of developing or commercializing another party’s product candidate.

Thus, partnership agreements may not lead to development, regulatory approval or successful commercialization of product candidates in the most efficient manner or at all. Some partnership agreements are terminable without cause on short notice. Once a partnership agreement is signed, it may not lead to regulatory approval and commercialization of a product candidate. We also face competition in seeking out partners. If we are unable to secure new collaborations that achieve the collaborator's objectives and meet our expectations, we may be unable to advance our product candidates and may not generate meaningful revenues.

We rely, and expect to continue to rely, on third parties to conduct the preclinical and clinical trials for our product candidates, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials or failing to comply with applicable regulatory requirements.

We depend and will continue to depend upon independent investigators and collaborators, such as universities, medical institutions, and strategic partners to conduct our preclinical studies and clinical trials. Agreements with such third parties might terminate for a variety of reasons, including a failure to perform by the third parties. If we need to enter into alternative arrangements, our product development activities would be delayed.

Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with regulatory standards, commonly referred to as good laboratory practices, or GLP, and good clinical practices, or GCP, for conducting, recording and reporting the results of preclinical and clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. We are also required to register certain ongoing clinical trials and post the results of certain completed clinical trials on a government-sponsored database within specified timeframes. Failure to do so by us or third parties can result in FDA refusal to approve applications based on the clinical data, enforcement actions, adverse publicity and civil and criminal sanctions.

Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

In addition, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and may receive cash or equity compensation in connection with such services. If these relationships and any related compensation result in perceived or actual conflicts of interest, or the FDA concludes that the financial relationship may have affected the interpretation of the trial, the integrity of the data generated at the applicable clinical trial site may be questioned and the utility of the clinical trial itself may be jeopardized, which could result in the delay or rejection by the FDA. Any such delay or rejection could prevent us from commercializing our product candidates or any future product candidates.

To develop immunotherapeutic candidates, we 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 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 will require 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 access to facilities and supply of certain materials and equipment used in the manufacture of our product candidates. For example, we purchase equipment and reagents critical for the manufacture of our product candidates from third parties on a purchase order basis. Some of our suppliers may not have the capacity to support commercial products manufactured under cGMP 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 not be able to obtain key materials and equipment to support clinical or commercial manufacturing.

For some of these reagents, equipment, and materials, we may in the future rely on sole source vendors or a limited number of vendors. An inability to source product from any of these suppliers, which could be due to regulatory actions or requirements affecting the supplier, adverse financial or other strategic developments experienced by a supplier, labor disputes or shortages, widespread business interruption, 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.

As we continue to develop and scale our manufacturing process, we may need to obtain rights to and supplies of certain materials and equipment to be used as part of that process. We may not be able to obtain rights to such materials on commercially reasonable terms, or at all, and if we are unable to alter our process in a commercially viable manner to avoid the use of such materials or find a suitable substitute, it would have a material adverse effect on our business.

Our employees, principal investigators, CROs and consultants may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements.

We are exposed to the risk that our employees, principal investigators, CROs and consultants may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violate the regulations of the FDA and other regulatory authorities, including those laws requiring the reporting of true, complete and accurate information to such authorities; healthcare fraud and abuse laws and regulations in the United States and abroad; or laws that require the reporting of financial information or data accurately. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials or creating fraudulent data in our preclinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have a code of conduct applicable to all of our employees, but it is not always possible to identify and deter misconduct by employees and other third parties, and 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. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. 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 civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Risks Related to Regulatory Approval of our Product Candidates and Other Legal Compliance Matters

If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals for our product candidates, we will not be able to commercialize, or will be delayed in commercializing, our product candidates, and our ability to generate revenue will be materially impaired.

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, distribution, import and export are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Before we can commercialize any of our product candidates, we must obtain marketing approval. Currently, all of our product candidates are in development, and we have not received approval to market any of our product candidates from regulatory authorities in any jurisdiction. It is possible that our product candidates, including any product candidates we may seek to develop in the future, will never obtain regulatory approval. Whether the results from our current ongoing clinical trials and other trials will suffice to obtain approval will be a review issue and the FDA may not grant approval and may require that we conduct one or more controlled clinical trials to obtain approval. Additionally, even if FDA does grant approval for one or more of our product candidates, it may be for a more narrow indication than we seek. Regulatory authorities, including the FDA, also may impose significant limitations in the form of narrow indications, warnings or a REMS. These regulatory authorities may require labeling that includes precautions or contra-indications with respect to conditions of use, or they may grant approval subject to the performance of costly post-marketing clinical trials. In addition, regulatory authorities may not approve the labeling claims that are necessary or desirable for the successful commercialization of any product candidates we may develop.

We have only limited experience in filing and supporting the applications necessary to gain regulatory approvals and expect to rely on third-party CROs and/or regulatory consultants to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate’s safety and efficacy. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. In addition, regulatory authorities may find fault with our manufacturing process or facilities or that of third-party contract manufacturers. We may also face greater than expected difficulty in manufacturing our product candidates.

The process of obtaining regulatory approvals, both in the United States and abroad, is expensive and often takes many years. If the FDA or a comparable foreign regulatory authority requires that we perform additional preclinical studies or clinical trials, approval, if obtained at all, may be delayed. The length of such a delay varies substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted BLA, premarket approval application, or equivalent application types, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. Our product candidates could be delayed in receiving, or 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 preclinical studies or clinical trials;
- we may not be able to enroll a sufficient number of patients in our clinical studies;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication or a related companion diagnostic is suitable to identify appropriate patient populations;
- 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 a product candidate's clinical and other benefits outweigh its 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 support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may find deficiencies with or 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 such that our clinical data are insufficient for approval.

Even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, thereby narrowing the commercial potential of the product candidate. In addition, regulatory authorities may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

If we experience delays in obtaining approval or if we fail to obtain approval of our product candidates, the commercial prospects for our product candidates may be harmed and our ability to generate revenues will be materially impaired.

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

We may also 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.

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, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the product candidate in those countries. 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 nonclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In short, the foreign regulatory approval process involves all of the risks associated with FDA approval. In many

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 may intend to charge for our products will also be subject to approval.

Even if we receive regulatory approval for any of our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to post-market study requirements, marketing and labeling restrictions, and even recall or market withdrawal if unanticipated safety issues are discovered following approval. In addition, we may be subject to penalties or other enforcement action if we fail to comply with regulatory requirements.

If the FDA or a comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, labeling, packaging, distribution, storage, advertising, promotion, import, export, recordkeeping, monitoring, and reporting for our product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, establishment registration and listing, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval. Any regulatory approvals that we receive for our product candidates may also 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 studies, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product.

The FDA may require a REMS in order to approve our product candidates, which could entail requirements for 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. Later discovery of previously unknown problems with a product, 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, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- revision to the labeling, including limitations on approved uses or the addition of additional warnings, contraindications or other safety information, including boxed warnings;
- imposition of a REMS, which may include distribution or use restrictions;
- requirements to conduct additional post-market clinical trials to assess the safety of the product;
- fines, warning letters or other regulatory enforcement action;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

The FDA's and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. 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, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

If we are unable to successfully validate, develop and obtain regulatory approval for any required companion diagnostic tests for our product candidates or experience significant delays in doing so, we may fail to obtain approval or may not realize the full commercial potential of these product candidates.

In connection with the clinical development of our product candidates for certain indications, we may develop or engage third parties to develop or obtain access to *in vitro* companion diagnostic tests to identify patient subsets within a disease category who may derive benefit from our product candidates, as we are targeting certain genetically defined populations for our treatments. Such companion diagnostics may be used during our clinical trials and may be required in connection with the FDA approval of our product candidates. To be successful, we or our collaborators will need to address a number of scientific, technical, regulatory and logistical challenges. Companion diagnostics are subject to regulation by the FDA, EMA and other regulatory authorities as medical devices and require separate regulatory approval prior to commercialization.

We may rely on third parties for the design, development and manufacture of companion diagnostic tests for our therapeutic product candidates that may require such tests. If we enter into such collaborative agreements, we will be dependent on the sustained

cooperation and effort of our future collaborators in developing and obtaining approval for these companion diagnostics. We and our future collaborators may encounter difficulties in developing and obtaining approval for the companion diagnostics, including issues relating to selectivity/specificity, analytical validation, reproducibility, or clinical validation of companion diagnostics. We and our future collaborators also may encounter difficulties in developing, obtaining regulatory approval for, manufacturing and commercializing companion diagnostics similar to those we face with respect to our therapeutic product candidates themselves, including issues with achieving regulatory clearance or approval, production of sufficient quantities at commercial scale and with appropriate quality standards, and in gaining market acceptance. If we are unable to successfully develop companion diagnostics for these therapeutic product candidates, or experience delays in doing so, the development of these therapeutic product candidates may be adversely affected, these therapeutic product candidates may not obtain marketing approval or such approval may be delayed, and we may not realize the full commercial potential of any of these therapeutics that obtain marketing approval. As a result, our business, results of operations and financial condition could be materially harmed. In addition, a diagnostic company with whom we contract may decide to discontinue developing, selling or manufacturing the companion diagnostic test that we anticipate using in connection with development and commercialization of our product candidates or our relationship with such diagnostic company may otherwise terminate. We may not be able to enter into arrangements with another diagnostic company to obtain supplies of an alternative diagnostic test for use in connection with the development and commercialization of our product candidates or do so on commercially reasonable terms, which could adversely affect and/or delay the development or commercialization of our therapeutic product candidates.

Our relationships with customers, healthcare professionals, and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to significant penalties, including criminal sanctions, administrative civil penalties, exclusion from government healthcare programs, contractual damages, reputational harm and diminished profits and future earnings.

Our current and future business operations and activities may subject us to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. Healthcare providers and third-party payors play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we research as well as market, sell and distribute our product candidates for which we obtain marketing approval. These laws and regulations may restrict or prohibit a wide range of ownership, pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the federal Anti-Kickback Statute prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid. The 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. 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;
- the federal civil and criminal false claims, including the federal False Claims Act, or FCA, which can be enforced through civil whistleblower or qui tam actions, and civil monetary penalties laws, which impose criminal and civil penalties against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false of fraudulent claim for purposes of the FCA;
- HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services; similar to 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;
- the federal physician payment transparency requirements, sometimes referred to as the “Sunshine Act” under the ACA, require certain manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children’s Health Insurance Program to report to the CMS, information related to transfers of value made to physicians (currently defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare professionals (such as nurse practitioners and physicians assistants), and teaching hospitals, as well as information regarding ownership and investment interests of such physicians and their immediate family members;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and its implementing regulations, impose obligations on certain covered entity healthcare providers, health plans, and healthcare clearinghouses and their business associates that perform certain services involving the use or disclosure of individually identifiable health information as well as their covered subcontractors, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information; and
- analogous state laws and regulations, such as state anti-kickback and false claims laws may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers. Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures. Some state and local laws require the registration of pharmaceutical sales representatives. Further, many state laws governing the privacy and security of health information in certain circumstances, differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities, including compensation of physicians with stock or stock options, could, despite efforts to comply, be subject to challenge under current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. Ensuring that our business arrangements with third parties comply with applicable healthcare laws and regulations could involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities to be conducted by our sales team, were to be found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from government funded healthcare programs, such as Medicare and Medicaid, contractual damages, integrity oversight and reporting obligations, reputational harm, diminished profits and future earnings, 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. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to significant criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. In addition, the approval and commercialization of any of our product candidates outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

The U.S. and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system that could prevent or delay marketing approval of our current or future product candidates or any future product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell a product for which we obtain marketing approval. Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements, (ii) additions or modifications to product labeling, (iii) the recall or discontinuation of our products or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business. In the U.S., there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the ACA was passed, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacted 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, increases 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% (increased pursuant to the Bipartisan Budget Act of 2018, effective as of 2019) 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.

There have been executive, judicial and Congressional challenges to certain aspects of the ACA. For example, former President Trump signed several Executive Orders and other directives designed to eliminate the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress considered legislation to repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation to date, the Tax Act, repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." 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. Thus, the ACA will remain in effect in its current form. Further, prior to the U.S. Supreme Court ruling, on January 28, 2021, President Biden issued an executive order to initiate a special enrollment period for purposes of obtaining health insurance coverage through the ACA marketplace. The executive order also instructs certain governmental agencies 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. It is unclear how any such challenges and the healthcare reform measures of the Biden administration will impact the ACA and our business.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers up to 2% per fiscal year, and, due to subsequent legislative amendments, will remain in effect through 2031 unless additional Congressional action is taken. However, the Medicare sequester reductions under the Budget Control Act of 2011 have been suspended from May 1, 2020 through March 31, 2022 due to the COVID-19 pandemic. Under current legislation, the actual reduction in Medicare payments will vary from 1% in 2022 to up to 3% in the final fiscal year of this sequester. The American Taxpayer Relief Act of 2012 among other things, reduced Medicare payments to several 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.

There has been increasing legislative and enforcement interest in the U.S. with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed 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, the former Trump administration used several means to propose or implement drug pricing reform including through federal budget proposals, executive orders and policy initiatives. For example, on July 24, 2020 and September 13, 2020, the former Trump administration announced several executive orders related to prescription drug pricing that sought to implement several of the administration's proposals. As a result, the FDA released a final rule and guidance in September 2020 providing pathways for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020, HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The implementation of the rule has been delayed by the Biden administration from January 1, 2022 to January 1, 2023 in response to ongoing litigation. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers, the implementation of which have also been delayed until January 1, 2023. Further, in November 2020, CMS issued an interim final rule implementing the Most Favored Nation, or MFN, Model under which Medicare Part B reimbursement rates will be calculated for certain drugs and biologicals based on the lowest price drug manufacturers receive in Organization for Economic Cooperation and Development countries with a similar gross domestic product per capita. As a result of litigation challenging the Most Favored Nation Model, on December 27, 2021, CMS published a final rule that rescinded the Most Favored Nation model interim final rule. 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 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 to advance these principles. No legislation or administrative actions have been finalized to implement these principles. In addition, Congress is considering drug pricing as part of other reform initiatives.

At the state level, individual states are increasingly aggressive in passing legislation and implementing 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. In addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing.

We expect that additional state and federal healthcare reform measures will be adopted in the future, particularly in light of the new U.S. presidential administration, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our current or future product candidates or additional pricing

pressures. In particular any policy changes through CMS as well as local state Medicaid programs could have a significant impact on our business in light of the higher proportion of SCD patients that utilize Medicare and Medicaid programs to pay for treatments.

Our revenue prospects could be affected by changes in healthcare spending and policy in the U.S. and abroad. We operate in a highly regulated industry and new laws, regulations or judicial decisions, or new interpretations of existing laws, regulations or decisions, related to healthcare availability, the method of delivery or payment for healthcare products and services could negatively impact our business, operations and financial condition.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future, including repeal, replacement or significant revisions to the ACA. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our current or future product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our products;
- our ability to obtain coverage and reimbursement approval for a product;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors, which may adversely affect our future profitability.

Further, it is possible that additional governmental action is taken in response to the COVID-19 pandemic.

We are subject to the U.K. Bribery Act 2010, or the Bribery Act, the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, and other anti-corruption laws, as well as export control laws, import and customs laws, trade and economic sanctions laws and other laws governing our operations.

Our operations are subject to anti-corruption laws, including the Bribery Act, the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. §201, the U.S. Travel Act, and other anti-corruption laws that apply in countries where we do business. The Bribery Act, the FCPA and these other laws generally prohibit us and our employees and intermediaries from authorizing, promising, offering, or providing, directly or indirectly, improper or prohibited payments, or anything else of value, to government officials or other persons to obtain or retain business or gain some other business advantage. Under the Bribery Act, we may also be liable for failing to prevent a person associated with us from committing a bribery offense. We and our commercial partners operate in a number of jurisdictions that pose a high risk of potential Bribery Act, or FCPA, violations, and we participate in collaborations and relationships with third parties whose corrupt or illegal activities could potentially subject us to liability under the Bribery Act, FCPA or local anti-corruption laws, even if we do not explicitly authorize or have actual knowledge of such activities. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the United Kingdom and the United States, and authorities in the European Union, including applicable export control regulations, economic sanctions and embargoes on certain countries and persons, anti-money laundering laws, import and customs requirements and currency exchange regulations, collectively referred to as the Trade Control laws.

There is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the Bribery Act, the FCPA or other legal requirements, including Trade Control laws. If we are not in compliance with the Bribery Act, the FCPA and other anti-corruption laws or Trade Control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. Likewise, any investigation of any potential violations of the Bribery Act, the FCPA, other anti-corruption laws or Trade Control laws by United Kingdom, United States or other authorities could also have an adverse impact on our reputation, our business, results of operations and financial condition.

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 have a material adverse effect on the success of our business.

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 operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also 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. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent. We cannot predict the impact of such changes and cannot be certain of 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. 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 or liabilities, which could materially adversely affect our business, financial condition, results of operations and prospects.

Risks Related to the Commercialization of our Product Candidates

If we are unable to establish sales, marketing and distribution capabilities for our product candidates, or enter into sales, marketing and distribution agreements with third parties, we may not be successful in commercializing our product candidates, if approved.

We currently plan to work 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. However, we currently have no sales, marketing or distribution capabilities and have no experience in marketing or distributing pharmaceutical products. To achieve commercial success for any product candidate for which we may obtain marketing approval, we will need to expand our sales and marketing organization and establish logistics and distribution processes to commercialize and deliver our product candidates to patients and healthcare providers. The development of sales, marketing and distribution capabilities will require substantial resources, will be time-consuming and could delay any product launch.

If we are unable or decide not to establish internal sales, marketing and distribution capabilities, we would have to pursue collaborative arrangements regarding the sales and marketing of our products. However, we may not be successful in entering into arrangements with third parties to sell, market and distribute our product candidates or may be unable to do so on terms that are favorable to us, or if we are able to do so, that they would be effective and successful in commercializing our products. Our product revenues and our profitability, if any, would likely to be lower than if we were to sell, market and distribute any product candidates that we develop ourselves. In addition, we would have limited control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our product candidates effectively.

If we do not establish sales, marketing and distribution capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates in the United States or overseas.

We operate in a rapidly changing industry and face significant competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.

The development and commercialization of new biopharmaceutical products is highly competitive and subject to rapid and significant technological advancements. We face competition from major multi-national pharmaceutical companies, biotechnology companies and specialty pharmaceutical companies with respect to our current and future product candidates that we may develop and commercialize in the future. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of product candidates for the treatment of cancer. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Potential competitors also include academic institutions, government agencies and other public and private research organizations.

In addition to the current standard of care treatments for patients with infectious diseases or cancers, numerous commercial and academic preclinical studies and clinical trials are being undertaken by a large number of parties to assess novel technologies and product candidates in the field of immunotherapy. Results from these studies and trials have fueled increasing levels of interest in the field of immunotherapy.

Large pharmaceutical companies that have commercialized or are developing immunotherapies to treat cancer include AstraZeneca, Bristol Myers Squibb, Gilead Sciences, Merck, Novartis, Pfizer, and Roche/Genentech.

On the technology level, other companies which can potentially develop competing product candidates which act to stimulate the body's immune response as a treatment for SCCHN and other solid tumors include companies developing cell-based therapeutics such as CAR-T/TCR/NK therapies as well as companies developing therapeutic vaccines including BioNTech, Moderna, Gritstone Oncology and Oncorus, among others. In addition, a number of companies are developing oncolytic virus approaches, including Boehringer Ingelheim, Johnson and Johnson, Regeneron, Vyriad, Replimune and Turnstone. Amgen has received FDA approval for its oncolytic virus-based product, T-VEC.

Ablynx, a subsidiary of Sanofi, and Oncorus are actively pursuing the development of nanobodies as therapeutics.

Our competitors with development-stage programs may obtain marketing approval from the FDA or other comparable regulatory authorities for their product candidates more rapidly than we do, and they could establish a strong market position before we are able to enter the market. In addition, our competitors may succeed in developing, acquiring or licensing technologies and products that are more effective, more effectively marketed and sold or less costly than any product candidates that we may develop, which could render our product candidates non-competitive and obsolete.

Many of our competitors, either alone or with their strategic collaborators, have substantially greater financial, technical and human resources than we do. Accordingly, our competitors may be more successful than we are in obtaining approval for treatments and achieving widespread market acceptance, which may render our treatments obsolete or non-competitive. 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 competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical studies, as well as in acquiring technologies complementary to, or necessary for, our programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive or better reimbursed than any products that we may commercialize. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position for either the product or a specific indication before we are able to enter the market.

Even if any of our product candidates 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.

Even if we obtain approvals from the FDA or other comparable regulatory agencies and are able to initiate commercialization of our product candidates or any other product candidates we develop, the product candidate may not achieve market acceptance among physicians, patients, hospitals, including pharmacy directors, and third-party payors and, ultimately, may not be commercially successful. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the clinical indications for which our product candidates are approved;
- physicians, hospitals, cancer treatment centers, and patients considering our product candidates as a safe and effective treatment;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities;
- limitations or warnings contained in the labeling approved by the FDA;
- the timing of market introduction of our product candidates as well as competitive products;

- the cost of treatment in relation to alternative treatments;
- the amount of upfront costs or training required for physicians to administer our product candidates;
- the availability of coverage, adequate reimbursement from, and our ability to negotiate pricing with, third-party payors and government authorities;
- the willingness of patients to pay out-of-pocket in the absence of comprehensive coverage and reimbursement by third-party payors and government authorities;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts and distribution support.

Our efforts to educate physicians, patients, third-party payors and others in the medical community on the benefits of our product candidates, if approved, may require significant resources and may never be successful. Such efforts may require more resources than are typically required due to the complexity and uniqueness of our product candidates. Because we expect sales of our product candidates, if approved, to generate substantially all of our product revenue for the foreseeable future, the failure of our product candidates to find market acceptance would harm our business and could require us to seek additional financing.

In addition, although we are not utilizing embryonic stem cells or replication competent vectors, adverse publicity due to the ethical and social controversies surrounding the therapeutic use of such technologies, and reported side effects from any clinical trials using these technologies or the failure of such trials to demonstrate that these therapies are safe and effective, may limit market acceptance our product candidates. If our product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, cancer treatment centers or others in the medical community, we will not be able to generate significant revenue.

Even if our product candidates, if approved, achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete.

Coverage and adequate reimbursement may not be available for our current or any future product candidates, which could make it difficult for us to sell profitably, if approved.

Market acceptance and sales of any product candidates, if approved, that we commercialize will depend in part on the extent to which reimbursement for these products and related treatments will be available from third-party payors, including government health administration authorities, managed care organizations and private health insurers. Third-party payors decide which therapies they will pay for and establish reimbursement levels. In the United States, the principal decisions about reimbursement for new medicines are typically made by CMS, an agency within HHS. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and private payors tend to follow CMS to a substantial degree. However, decisions regarding the extent of coverage and amount of reimbursement to be provided for any product candidates that we develop will be made on a payor-by-payor basis. Further, no uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor. As a result, one payor's determination to provide coverage for a drug does not assure that other payors will also provide coverage and adequate reimbursement for the drug. Additionally, a third-party payor's decision to provide coverage for a therapy does not imply that an adequate reimbursement rate to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment will be approved. 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 incur significant costs to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of our product candidates, in addition to the costs required to obtain FDA approvals. Our product candidates may not be considered medically necessary or cost-effective.

Each payor determines whether or not it will provide coverage for a therapy, what amount it will pay the manufacturer for the therapy, and on what tier of its list of covered drugs, or formulary, it will be placed. The position on a payor's formulary, generally determines the co-payment that a patient will need to make to obtain the therapy and can strongly influence the adoption of such therapy by patients and physicians. Patients who are prescribed treatments for their conditions and providers prescribing such services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products, and providers are unlikely to prescribe our products, unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products and their administration. Therefore, coverage and adequate reimbursement is critical to new medical product acceptance.

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. Additionally, if any companion diagnostic provider is unable to obtain reimbursement or is inadequately reimbursed, that may limit the availability of such companion diagnostic, which would negatively impact prescriptions for our product candidates, if approved.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that coverage and reimbursement will be available for any drug that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Even if favorable coverage and reimbursement status is attained for one or more product candidates for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future. Inadequate coverage and reimbursement may impact the demand for, or the price of, any drug for which we obtain marketing approval. If coverage and adequate reimbursement are not available, or are available only to limited levels, we may not be able to successfully commercialize our current and any future product candidates that we develop. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In general, the prices of medicines under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for medicines, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits.

We cannot be sure that coverage and reimbursement in the United States or elsewhere will be available for any product that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future.

Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- reduced resources of our management to pursue our business strategy;
- decreased demand for any product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- significant costs to defend the resulting litigation;
- substantial monetary awards paid to clinical trial participants or patients;
- loss of revenue; and
- the inability to commercialize any products that we may develop.

We currently do not have product liability in place as the cost of coverage exceeds the covered amount during clinical trials. Once we are ready for a product launch, we intend to bind a policy with product liability insurance coverage in the aggregate and a per incident limit at an amount adequate to cover estimated liabilities that we may incur. We may need to increase our insurance coverage as we expand our clinical trials or if we commence commercialization of our product candidates. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

Inadequate funding for the FDA, the SEC and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner

or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the SEC and other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, the U.S. government has shut down several times, and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical employees and stop critical activities. Separately, in response to the COVID-19 pandemic, the FDA has been utilizing a rating system to assist in determining when and where it is safest to conduct inspections based on data about the virus' trajectory in a given state and locality and the rules and guidelines that are put in place by state and local governments. Regulatory authorities outside the United States may adopt 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 to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our phage-based vaccine and ASPH-targeting technologies and product candidates, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and biologics similar or identical to ours, and our ability to successfully commercialize our technology and product candidates may be impaired.

Our success depends, in large part, on our ability to obtain and maintain patent protection in the United States, Canada, China, the European Union and other countries with respect to our product candidates. We seek to protect our proprietary position by filing patent applications related to our technology and product candidates in the major pharmaceutical markets, including the United States, Canada, China, major countries in Europe and Japan. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage that we may have, which could harm our business and ability to achieve profitability.

To protect our proprietary positions, we file patent applications in the United States and other countries related to our novel technologies and product candidates that are important to our business. The patent application and prosecution process is expensive and time-consuming. We may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may also fail to identify patentable aspects of our research and development before it is too late to obtain patent protection. It is possible that defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, such as with respect to proper priority claims, inventorship, claim scope or patent term adjustments. If any current or future licensors or licensees are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised and we might not be able to prevent third parties from making, using and selling competing products. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Any of these outcomes could impair our ability to prevent competition from third parties.

It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. The patent applications that we own may fail to result in issued patents with claims that cover our current and future product candidates in the United States or in other foreign countries. Our patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless, and until, a patent issues from such applications, and then only to the extent the issued claims cover the technology.

If the patent applications we hold with respect to our development programs and product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for our current and future product candidates, it could threaten our ability to commercialize our product candidates. Any such outcome could have a negative effect on our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the

scope of our patent protection. In addition, the protections offered by laws of different countries vary. No consistent policy regarding the breadth of claims allowed in biotechnology and pharmaceutical patents has emerged to date in the United States or in many foreign jurisdictions. In addition, the determination of patent rights with respect to pharmaceutical compounds and technologies commonly involves complex legal and factual questions, which has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Furthermore, recent changes in patent laws in the United States, may affect the scope, strength and enforceability of our patent rights or the nature of proceedings that may be brought by or against us related to our patent rights. Additionally, the U.S. Supreme Court has ruled on several patent cases in recent years either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain 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 U.S. federal courts, and the U.S. Patent and Trademark Office, or USPTO, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain patents or to enforce any patents that we might obtain in the future.

We may not be aware of all third-party intellectual property rights potentially relating to our current and future our product candidates. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. Similarly, should we own any patents or patent applications in the future, we may not be certain that we were the first to file for patent protection for the inventions claimed in such patents or patent applications. As a result, the issuance, scope, validity and commercial value of our patent rights cannot be predicted with any certainty. Moreover, we may be subject to a third-party pre-issuance submission of prior art to the USPTO or become involved in opposition, derivation, reexamination, *inter partes* review or interference proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or product candidates and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights, which could significantly harm our business and results of operations.

Our pending and future patent applications may not result in patents being issued that protect our technology or product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection against competing products or processes sufficient to achieve our business objectives, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents, should they issue, by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend and/or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our patents invalid and/or unenforceable.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. In addition, 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.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could significantly harm our business.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our product candidates and use our proprietary phage-based vaccine technology without infringing the intellectual property and other proprietary rights of third parties. Numerous third-party U.S. and non-U.S. issued patents exist in the area of biotechnology, including in the area of vaccine therapies and including patents held by our competitors. If any third-party patents cover our product candidates or technologies, we may not be free to manufacture or commercialize our product candidates as planned.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our technology or product candidates, including interference proceedings before the USPTO. Intellectual property disputes arise in a number of areas including with respect to patents, use of other proprietary rights and the contractual terms of license arrangements.

Third parties may assert claims against us based on existing or future intellectual property rights and claims may also come from competitors against whom our own patent portfolio may have no deterrent effect. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. Other parties may allege that our product candidates or the use of our technologies infringes patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. As we continue to develop and, if approved, commercialize our current and future product candidates, competitors may claim that our technology infringes their intellectual property rights as part of business strategies designed to impede our successful commercialization. There are and may in the future be additional third-party patents or patent applications with claims to, for example, materials, compositions, formulations, methods of manufacture or methods for treatment related to the use or manufacture of any one or more of our product candidates. Moreover, we may fail to identify relevant third party patents or patent applications, or we may incorrectly conclude that the claims of an issued patent are invalid or are not infringed by our activities. Because patent applications can take many years to issue, third parties may have currently pending patent applications which may later result in issued patents that any of our product candidates may infringe, or which such third parties claim are infringed by our technologies.

If we are found to infringe a third party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product candidate or product. Alternatively, we may be required or may choose to obtain a license from such third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product candidate. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative effect on our business. Even if successful, the defense of any claim of infringement or misappropriation is time-consuming, expensive and diverts the attention of our management from our ongoing business operations.

We may need to license intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third party may hold intellectual property rights, including patent rights, that are important or necessary to the development or manufacture of our product candidates. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our product candidates, in which case we would be required to obtain a license from these third parties. Such a license may not be available on commercially reasonable terms, or at all, and we could be forced to accept unfavorable contractual terms. If we are unable to obtain such licenses on commercially reasonable terms, our business could be harmed.

The licensing and acquisition of third-party intellectual property rights is a competitive practice, and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. We may not 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 become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe our patents, if issued, trademarks, copyrights or other intellectual property. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming and divert the time and attention of our management and scientific personnel. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents, trademarks, copyrights or other intellectual property. In addition, in a patent infringement proceeding, there is a risk that a court will decide that a patent of ours is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patents do not cover the invention. An adverse outcome in a litigation or proceeding involving our patents could limit our ability to assert our patents against those parties or other competitors, and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

In any infringement litigation, any award of monetary damages we receive may not be commercially valuable. 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 litigation. 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. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing, misappropriating or successfully challenging our intellectual property rights. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a negative impact on our ability to compete in the marketplace.

We may be subject to claims by third parties asserting that we or our employees have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies. Although we try to ensure that our employees do not use the proprietary information or know-how of third parties in their work for us, we may be subject to claims that these employees or we have inadvertently or otherwise used intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. We may also in the future be subject to claims that we have caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. Litigation may be necessary to defend against these potential claims.

In addition, while it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, such employees and contractors may breach the agreement and claim the developed intellectual property as their own.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A court could prohibit us from using technologies or features that are essential to our products if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and could be a distraction to management. In addition, any litigation or threat thereof may adversely affect our ability to hire employees or contract with independent service providers. Moreover, a loss of key personnel or their work product could hamper or prevent our ability to commercialize our products.

We may be subject to claims challenging the inventorship or ownership of our owned patent rights and other intellectual property.

We generally enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. For example, disputes may arise from conflicting obligations of consultants or others who are involved in developing our technology and product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. 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. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Any trademarks we may obtain may be infringed or successfully challenged, resulting in harm to our business.

We expect to rely on trademarks as one means to distinguish any of our product candidates that are approved for marketing from the products of our competitors. We have not yet selected trademarks for our product candidates and have not yet begun the process of applying to register trademarks for our product candidates. Once we select trademarks and apply to register them, our trademark applications may not be approved. Third parties may oppose our trademark applications, or otherwise challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our products, which could result in loss of brand recognition and could require us to devote resources to advertising and marketing new brands. Our competitors may infringe our trademarks and we may not have adequate resources to enforce our trademarks.

In addition, any proprietary name we propose to use with our product candidates or any other product candidate 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. The FDA typically conducts a review of proposed product names, including an evaluation of the potential for confusion with other product names. If the FDA objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable proprietary product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patent and trademark protection for our product candidates, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect our trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets. Monitoring unauthorized uses and disclosures of our intellectual property is difficult, and we do not know whether the steps we have taken to protect our intellectual property will be effective. In addition, we may not be able to obtain adequate remedies for any such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. Furthermore, some courts inside and outside the United States are less willing or unwilling to protect trade secrets.

Moreover, our competitors may independently develop knowledge, methods and know-how equivalent to our trade secrets. Competitors could purchase our products and replicate some or all of the competitive advantages we derive from our development efforts for technologies on which we do not have patent protection. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

We may not be able to protect our intellectual property rights throughout the world.

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 could be less extensive than those in the United States. In some cases, we may not be able to obtain patent protection for certain technology outside the United States. 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, even in jurisdictions where we do pursue patent protection. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, even in jurisdictions where we do pursue patent protection 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 pursued and obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our product candidates and preclinical programs and our patents 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 biotechnology products, which could make it difficult for us to stop the infringement of our patents, if pursued and obtained, or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent 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. 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.

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 and annuity fees on any issued patent are due to be paid to the USPTO and patent agencies outside the United States 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 similar provisions during the patent application process. 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. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we fail to maintain the patents and patent applications covering our products or product candidates, our competitors might be able to enter the market, which would harm our business. In addition, to the extent that we have responsibility for taking any action related to the prosecution or maintenance of patents or patent application in-licensed from a third party, any failure on our part to maintain the in-licensed rights could jeopardize our rights under the relevant license and may expose us to liability.

Risks Related to our Business Operations

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

As of March 10, 2022, we had 56 full-time employees. As our development and commercialization plans and strategies develop, and as we transition into operating as a public company, we expect to need additional managerial, operational, financial and other personnel, including personnel to support our product development and planned future commercialization efforts. Future growth will impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our internal development efforts effectively, including the preclinical, clinical and FDA review processes for our product candidates; and
- improving our operational, financial and management controls, reporting systems and procedures.

There are a small number of individuals with experience in immunotherapy and the competition for these individuals is high. Our future financial performance and our ability to commercialize our product candidates will depend, in part, on our ability to effectively manage any future growth, and our management may also 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.

If we are not able to effectively expand our organization by hiring new employees, we may not be able to successfully implement the tasks necessary to further develop and commercialize our product candidates and, accordingly, may not achieve our research, development and commercialization goals.

In addition to expanding our organization, we anticipate increasing the size of our facilities and building out our development and manufacturing capabilities, which would require significant capital expenditures. If these capital expenditures are higher than expected, it may adversely affect our financial condition and capital resources. In addition, if the increase in the size of our facilities is delayed, it may limit our ability to rapidly expand the size of our organization in order to meet our corporate goals.

Our future success depends on our ability to retain key members of senior management and to attract, retain and motivate qualified personnel.

Our ability to compete in the highly competitive biopharmaceutical industry depends upon our ability to attract and retain highly qualified management, research and development, clinical, financial and business development personnel. We are highly dependent on our management, scientific and medical personnel, including John Celebi, our Chief Executive Officer, Dr. Robert Pierce, our Chief Research and Development Officer and Erin Colgan, our Chief Financial Officer. Our senior management may terminate their employment with us at any time. We do not maintain “key person” insurance for any of our employees.

Recruiting and retaining qualified scientific and clinical personnel and, if we progress the development of any of our product candidates, commercialization, manufacturing and sales and marketing personnel, will be critical to our success. The loss of the services of members of our senior management or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing members of our senior management and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize our product candidates. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level and senior managers, as well as junior, mid-level and senior scientific and medical personnel. Competition to hire from this limited candidate pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research

institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high-quality personnel, our ability to pursue our growth strategy will be limited.

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

From time to time, we may evaluate various acquisitions and strategic collaborations, including licensing or acquiring complementary products, intellectual property rights, technologies or businesses, as we may deem appropriate to carry out our business plan. For instance, in May 2020, we acquired Alvaxa Biosciences LLC to enhance the depth of our nanobody assets and know-how. Any potential acquisition or strategic collaboration may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness or contingent liabilities;
- 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 programs and initiatives in pursuing such a strategic partnership, 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 and their existing products or product candidates and regulatory approvals; and
- our inability to generate revenue from acquired technology sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

Additionally, if we undertake future 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 expenses. 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.

Risks Related to our Securities and our Status as a Public Company

An active trading market for our common stock may not continue to develop or be sustained.

Prior to our initial public offering, there was no public market for our common stock, and we cannot assure you that an active trading market for our shares will continue to develop or be sustained. As a result, it may be difficult for you to sell shares at an attractive price or at all.

The trading 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 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. The stock market in general and the market for biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may not be able to sell their common stock at or above the price paid for the common stock. In addition to the factors discussed elsewhere in this "Risk Factors" section, these factors include:

- the commencement, enrollment or results of our planned and future clinical trials;
- positive or negative results from, or delays in, testing and clinical trials by us, collaborators or competitors;
- the loss of any of our key scientific or management personnel;
- regulatory or legal developments in the United States and other countries;
- the success of competitive products or technologies;
- adverse actions taken by regulatory agencies with respect to our clinical trials or manufacturers;
- changes or developments in laws or regulations applicable to our product candidates and preclinical program;

- changes in the structure and scope of health care payment systems;
- changes to our relationships with collaborators, manufacturers or suppliers;
- concerns regarding the safety of our product candidates or ImmunoPhage platform in general;
- announcements concerning our competitors or the pharmaceutical industry in general;
- actual or anticipated fluctuations in our operating results;
- changes in financial estimates or recommendations by securities analysts;
- potential acquisitions, financing, collaborations or other corporate transactions;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates;
- the trading volume of our common stock on Nasdaq;
- sales of our common stock by us, members of our senior management and directors or our stockholders or the anticipation that such sales may occur in the future;
- general economic, political, and market conditions and overall fluctuations in the financial markets in the United States;
- stock market price and volume fluctuations of comparable companies and, in particular, those that operate in the biopharmaceutical industry;
- investors' general perception of us and our business; and
- other events and factors, many of which are beyond our control.

These and other market and industry factors may cause the market price and demand for our common stock to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from selling their common stock at or above the price paid for the common stock and may otherwise negatively affect the liquidity of our common stock. In addition, the stock market in general, and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies.

Some companies that have experienced volatility in the trading price of their shares have been the subject of securities class action litigation. From time to time, we have been, and may continue to be, subject to legal proceedings and claims in the ordinary course of business. For instance, during 2017, we became actively involved, along with other defendants, in a breach of contract claim in the Ontario (Canada) Superior Court of Justice seeking declaratory and other relief, including monetary damages. While we believe there is no merit to the allegations of that claim, any lawsuit to which we are a party, with or without merit, may result in an unfavorable judgment. We also may decide to settle lawsuits on unfavorable terms.

Any such negative outcome could result in payments of substantial damages or fines, damage to our reputation or adverse changes to our business practices. Defending against litigation is costly and time-consuming, and could divert our management's attention and our resources. Furthermore, during the course of litigation, there could be negative public announcements of the results of hearings, motions or other interim proceedings or developments, which could have a negative effect on the market price of our common stock.

A significant portion of our total outstanding shares are restricted from immediate resale, but may be sold into the market in the near future. This could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amounts of our shares of common stock in the public market, the market price of our common stock could decline significantly.

In addition, we have filed a registration statement registering the issuance of approximately 7.3 million shares of common stock subject to options or other equity awards issued or reserved for future issuance under our equity incentive plans. Shares registered under these registration statements will be available for sale in the public market subject to vesting arrangements and exercise of options, the lock-up agreements described above and, in the case of our affiliates, the restrictions of Rule 144 under the Securities Act.

Additionally, certain holders of our common stock, or their transferees, have rights, subject to some conditions, to require us to file one or more registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. If we were to register the resale of these shares, they could be freely sold in the public market. If these

additional shares 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.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation, could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Ineffective internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

We are an "emerging growth company" and a "smaller reporting company," and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our shares of common stock less attractive to investors.

We are an "emerging growth company," as defined in Section 2(a) of the Securities 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 the auditor attestation requirements in the assessment of our internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act, compliance with any new requirements adopted by the PCAOB, disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and the requirements of holding advisory "say-on-pay" votes on executive compensation and shareholder advisory votes on golden parachute compensation not previously approved. Certain of these reduced reporting requirements and exemptions are also available to us due to the fact that we qualify as a "smaller reporting company" under SEC rules. For instance, smaller reporting companies are not required to obtain an auditor attestation and report regarding management's assessment of internal control over financial reporting, are not required to provide a compensation discussion and analysis, are not required to provide a pay-for-performance graph or CEO pay ratio disclosure and may present only two years of audited financial statements and related MD&A disclosure.

Under the JOBS Act, we will remain an emerging growth company until the earliest of (1) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (2) the date we qualify as a "large accelerated filer," with at least $700.0 million of equity securities held by non-affiliates; (3) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities; and (4) December 31, 2026, which is the last day of the fiscal year following the fifth anniversary of the date of the first sale of our common stock pursuant to an effective registration statement filed under the Securities Act. Under current SEC rules, however, we will continue to qualify as a "smaller reporting company" for so long as (i) we have a public float (i.e., the market value of common equity held by non-affiliates) of less than $250 million or (ii) our annual revenue is less than $100 million during the most recently completed fiscal year and the market value of our common stock held by non-affiliates is less than $700 million.

We cannot predict if investors will find our shares of common stock to be less attractive because we may rely on these exemptions. If some investors find our shares of common stock less attractive as a result, there may be a less active trading market for our shares of common stock, and our share 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 not to "opt out" of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised 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. Therefore, the reported results of operations contained in our consolidated financial statements may not be directly comparable to those of other public companies.

We do not anticipate paying any cash dividends on our common stock in the foreseeable future.

We do not intend to pay any cash dividends on our common stock in the foreseeable future and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. Therefore, you should not rely on an investment in our common stock to provide dividend income. Our board of directors has complete discretion as to whether to distribute dividends. Even if our board of directors decides to declare and pay dividends, the timing, amount and form of future dividends, if any, will depend on,

among other things, our future results of operations and cash flow, our capital requirements and surplus, the amount of distributions, if any, received by us from our subsidiaries, our financial condition, contractual restrictions and other factors deemed relevant by our board of directors. As a result, capital appreciation, if any, on our common stock will be your sole source of gains for the foreseeable future.

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations.

Our net operating loss, or NOL, carryforwards could expire unused and be unavailable to offset future income tax liabilities because of their limited duration or because of restrictions under U.S. tax law. U.S. federal NOLs generated in taxable years beginning before January 1, 2018 are permitted to be carried forward for only 20 taxable years under applicable U.S. federal income tax law. Under the Tax Act, as modified by the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, NOLs arising in taxable years beginning after December 31, 2017 may be carried forward indefinitely, but the deductibility of such NOLs generally will be limited in taxable years beginning after December 31, 2020 to 80% of current year taxable income. The extent to which state income tax law will conform to the Tax Act and CARES Act is uncertain. As of December 31, 2021, we had NOL carryforwards for federal and state income tax purposes of approximately $100.479 million and $92.399 million, respectively, a portion of which expire beginning in 2022. Net operating loss carryforwards generated after December 31, 2017 for federal tax reporting purposes of $58.541 million have an indefinite life. The remaining federal net operating losses are subject to a 20-year carryforward period.

In general, under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an “ownership change” (as defined under Section 382 of the Code and applicable Treasury Regulations) is subject to limitations on its ability to utilize its pre-change NOLs to offset future taxable income. We have not determined whether our NOLs are limited under Section 382 of the Code. We may have experienced an ownership change in the past, and may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which are outside our control. Furthermore, our ability to utilize NOLs of companies that we have acquired or may acquire in the future may be subject to limitations. There is also a risk that due to regulatory changes, such as suspensions on the use of NOLs or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to reduce future income tax liabilities, including for state tax purposes. For these reasons, we may not be able to utilize a material portion of the NOLs reflected on our balance sheet, even if we attain profitability, which could potentially result in increased future tax liability to us and could adversely affect our operating results and financial condition.

We have begun to incur significantly increased costs as a result of operating as a company whose common stock is publicly traded, and our management will be required to devote substantial time to new compliance initiatives.

As a newly public company, we have begun to incur significant legal, accounting and other expenses that we did not incur previously. These expenses will likely be even more significant after we no longer qualify as an emerging growth company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of Nasdaq and other applicable securities rules and regulations impose various requirements on public companies in the United States, including the establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our senior management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified senior management personnel or members for our board of directors.

However, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404, we are required to furnish a report by our senior management on our internal control over financial reporting. However, while we remain an emerging growth company or a smaller reporting company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To prepare for eventual compliance with Section 404, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404.

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware and, to the extent enforceable, the federal district courts of the United States of America, will be the exclusive forum 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 provides that the Court of Chancery of the State of Delaware and, to the extent enforceable, the federal district courts of the United States of America, will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law:

- any derivative claim or cause of action brought on our behalf;
- any claim or cause of action for breach of a fiduciary duty owed by any of our current or former directors, officers or other employees to us or our stockholders;
- any claim or cause of action against us or any of our current or former directors, officers or other employees, arising out of or pursuant to any provision of the DGCL, our certificate of incorporation or our bylaws;
- any claim or cause of action seeking to interpret, apply, enforce or determine the validity of our certificate of incorporation or our bylaws;
- any action or proceeding as to which the DGCL confers jurisdiction to the Court of Chancery of the State of Delaware; and
- any claim or cause of action against us or any of our current or former directors, officers or other employees that is governed by the internal-affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court having personal jurisdiction over the indispensable parties named as defendants.

This provision would not apply to suits brought to enforce a duty or liability created by the Securities Act or the Securities Exchange Act of 1934, or the Exchange Act, or any claim for which the U.S. federal courts have exclusive jurisdiction. Our amended and restated certificate of incorporation will provide that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

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 any other court of competent jurisdiction were to find either exclusive-forum provision in our amended and restated certificate of incorporation to be inapplicable or unenforceable, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could seriously harm our business.

General Risk Factors

Our business, operations and clinical development plans and timelines could be adversely affected by the effects of health epidemics, including the COVID-19 pandemic, on the manufacturing, clinical trial and other business activities performed by us or by third parties with whom we conduct business, including our contract manufacturers, CROs, shippers, equipment suppliers and others.

Our business could be adversely affected by health epidemics wherever we have clinical trial sites or other business operations. In addition, health epidemics could cause significant disruption in the operations of third-party manufacturers, CROs and other third parties upon whom we rely. For example, COVID-19 has spread worldwide. The global pandemic and government measures taken in response have also had a significant impact on businesses and commerce worldwide, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended across a variety of industries; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. On March 18, 2020, the FDA issued updated industry guidance for conducting clinical trials during the COVID-19 pandemic, which requires clinical trial sponsors to consider the need to delay or cease patient recruitment, change protocol regarding patient monitoring and assessment that minimizes in-person visits, alternative administration of certain investigational products due to compromised clinical sites and to put in place new processes or modify existing processes in consultation with the FDA that would ensure the safety of clinical trial participants. In connection with COVID-19, we implemented optional work-from-home policies for most employees. We follow all city, state, and federal guidelines in regard to safe work policies, this includes rapid testing of employees prior to entering the office on a semi-weekly basis, wearing a mask, social distancing and staying home if presenting symptoms. The effects of government orders and our work-from-home policies may negatively impact productivity, disrupt our business and delay our clinical programs and timelines, the magnitude of which will depend, in part, on the length and severity of the restrictions and other limitations on our ability to conduct our business in the ordinary course.

If our relationships with our suppliers or other vendors are terminated or scaled back as a result of the COVID-19 pandemic or other health epidemics, we may not be able to enter into arrangements with alternative suppliers or vendors or do so on commercially reasonable terms or in a timely manner. Switching or adding additional suppliers or vendors involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new supplier or vendor commences work. As a result, delays may occur, which could adversely impact our ability to meet our desired clinical development and any future commercialization timelines. Although we carefully manage our relationships with our suppliers and vendors, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not harm our business.

In addition, our preclinical studies and clinical trials may be affected by the COVID-19 pandemic. Clinical site initiation, patient enrollment and activities that require visits to clinical sites, including data monitoring, may be delayed due to prioritization of hospital resources toward the COVID-19 pandemic or concerns among patients about participating in clinical trials during a pandemic. Some patients may have difficulty following certain aspects of clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. These challenges may also increase the costs of completing our clinical trials. Similarly, if we are unable to successfully recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to COVID-19 or experience additional restrictions by their institutions, city or state, our clinical trial operations could be adversely impacted.

The spread of COVID-19, which has caused a broad impact globally, may materially affect us economically. While the potential economic impact brought by, and the duration of, COVID-19 may be difficult to assess or predict, a widespread pandemic has resulted in significant disruption of global financial markets, resulting in an economic downturn that could continue to significantly impact our business and operations and may reduce our ability to access capital, which could in the future negatively affect our liquidity. In addition, a recession or market correction resulting from the spread of COVID-19 could materially affect our business and the value of our common stock. In addition, a recurrence or “second wave” of COVID-19 cases could cause other widespread or more severe impacts depending on where infection rates are highest.

Further, we may experience additional disruptions that could severely impact our business and clinical trials, including:

- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption or delays in the operations of the FDA or other regulatory authorities, which may impact review and approval timelines;
- limitations on employee resources that would otherwise be focused on the conduct of our preclinical studies and clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people;
- risk that participants enrolled in our clinical trials will acquire COVID-19 while the clinical trial is ongoing, which could impact the results of the clinical trial, including by increasing the number of observed adverse events; and
- refusal of the FDA to accept data from clinical trials in these affected geographies.

These and similar, and perhaps more severe, disruptions in our operations could have a material adverse effect on our business, results of operations, cash flows, financial condition and/or prospects.

The global pandemic of COVID-19 continues to evolve rapidly. The ultimate impact of the COVID-19 pandemic or a similar health epidemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, our clinical trials, healthcare systems or the global economy as a whole. However, these effects could have a material impact on our operations, and we continue to monitor the COVID-19 situation closely. To the extent the COVID-19 pandemic adversely affects our business, results of operations, cash flows, financial condition and/or prospects, it may also have the effect of heightening many of the other risks described in this “Risk Factors” section.

Our computer systems or data, or those of our collaborators or other contractors or consultants, maybe compromised, which could result in adverse consequences, including but not limited to regulatory investigations or actions; litigation; fines and penalties; significant disruption of our product development programs and our ability to operate our business effectively; reputational harm; and other adverse consequences.

Our computer systems and those of our current and any future collaborators and other contractors or consultants may be vulnerable to a variety of disruptive and evolving threats, including computer viruses, malicious or unintentional actions or inactions that cause vulnerabilities, malware, supply chain attacks, ransomware, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Ransomware attacks, including those perpetrated by organized criminal threat actors,

nation-states, and nation-state-supported actors, are becoming increasingly prevalent and severe, and can lead to significant interruptions in our operations, loss of data and income, reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments. Similarly, supply-chain attacks have increased in frequency and severity, and we cannot guarantee that third parties and infrastructure in our supply chain or our third-party partners' supply chains have not been compromised or that they do not contain exploitable defects or bugs that could result in a breach of or disruption to our information technology systems (including our products/services) or the third-party information technology systems that support us and our services.

While we have not experienced any significant system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information, significant delays or setbacks in our research, or other similar disruptions. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. 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, our competitive position could be harmed, our reputation could be damaged, and the further development and commercialization of our product candidates could be delayed.

We are or may become subject to a variety of privacy and data security laws, and our failure to comply with them could harm our business.

We maintain sensitive information, including confidential business and personal information in connection with our preclinical studies and our employees, and are subject to laws and regulations governing the privacy and security of such information. In the United States, there are numerous federal and state privacy and data security laws and regulations governing the collection, use, disclosure and protection of personal information, including federal and state health information privacy laws, federal and state security breach notification laws, and federal and state consumer protection laws. Each of these constantly evolving laws can be subject to varying interpretations. The General Data Protection Regulation, the GDPR, applies in the European Economic Area, the EEA, into which we may expand our business. The GDPR governs the collection, use, disclosure, transfer or other processing of personal data of European data subjects. Among other things, the GDPR imposes requirements regarding the security of personal data and notification of data processing obligations to the competent national data processing authorities, changes the lawful bases on which personal data can be processed, expands the definition of personal data over prior EU law and requires changes to informed consent practices, as well as more detailed notices for clinical trial subjects and investigators. In addition, the GDPR increases the scrutiny of transfers of personal data from clinical trial sites located in the EEA to the United States and other jurisdictions that the European Commission does not recognize as having "adequate" data protection laws, and imposes substantial fines for breaches and violations (up to the greater of €20 million or 4% of our consolidated annual worldwide gross revenue). The GDPR also confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies and obtain compensation for damages resulting from violations of the GDPR.

Compliance with these and any other applicable privacy and data security laws and regulations is a rigorous and time-intensive process, and we may be required to put in place additional mechanisms ensuring compliance with the new data protection rules. If we fail to comply with any such laws or regulations, we may face significant fines and penalties that could adversely affect our business, financial condition and results of operations. Furthermore, the laws are not consistent, and compliance in the event of a widespread data breach is costly.

In addition, states are constantly adopting new laws or amending existing laws, requiring attention to frequently changing regulatory requirements. For example, the California Consumer Privacy Act, or the CCPA, took effect on January 1, 2020 and has been dubbed the first "GDPR-like" law in the United States. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used by requiring covered companies to provide new disclosures to California consumers (as that term is broadly defined and can include any of our current or future employees who may be California residents) and provide such residents new ways to opt-out of certain sales of 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. As we expand our operations and trials (both preclinical or clinical), the CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation in the United States. Other states are beginning to pass similar laws.

In addition, it is anticipated that the California Privacy Rights Act of 2020 ("CPRA"), effective January 1, 2023, will expand the CCPA. For example, the CPRA establishes a new California Privacy Protection Agency to implement and enforce the CPRA, which could increase the risk of an enforcement action. Other states have enacted data privacy laws. For example, Virginia passed the

Consumer Data Protection Act, and Colorado passed the Colorado Privacy Act, both of which differ from the CPRA and become effective in 2023. If we become subject to new data privacy laws, at the state level, the risk of enforcement action against us could increase because we may become subject to additional obligations, and the number of individuals or entities that can initiate actions against us may increase (including individuals, via a private right of action, and state actors).

As we expand our operations and trials (both preclinical or clinical), the CCPA, CPRA, and other similar state laws may increase our compliance costs and potential liability. Some observers have noted that the CCPA, CPRA, and other similar state laws could mark the beginning of a trend toward more stringent privacy legislation in the United States.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations, and those of our vendors and suppliers, could be subject to power shortages, telecommunications failures, water shortages, civil unrest, labor disputes, violence, earthquakes, floods, hurricanes, typhoons, fires, extreme weather conditions, infectious disease, medical epidemics and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We currently rely on third-party suppliers to produce and process our product candidates on a patient-by-patient basis. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption.

If equity research analysts do not publish research or reports, or publish unfavorable research or reports, about us, our business or our market, the price and trading volume of our common stock could decline.

The trading market for our common stock will be influenced by the research and reports that equity research analysts publish about us and our business. As a newly public company, we have only limited research coverage by equity research analysts. Equity research analysts may elect not to initiate or continue to provide research coverage of our common stock, and such lack of research coverage may adversely affect the market price of our common stock. Even if we continue to have equity research analyst coverage, we will not have any control over the analysts or the content and opinions included in their reports. The price of our common stock could decline if one or more equity research analysts downgrade our common stock or issue other unfavorable commentary or research about us. If one or more equity research analysts ceases coverage of us or fails to publish reports on us regularly, demand for our common stock could decrease, which in turn could cause the trading price or trading volume of our common stock to decline.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

Our principal executive offices and some of our laboratory space are located in Boston, Massachusetts, pursuant to a lease that expires in May 2026. We also lease laboratory space in Rockville, Maryland, pursuant to a lease that expires in February 2027. We believe that our current facilities are adequate to meet our ongoing needs, and that, if we require additional space, we will be able to obtain additional facilities on commercially reasonable terms.

Item 3. Legal Proceedings.

We are not currently a party to any material legal proceedings. From time to time, we may become involved in other litigation or legal proceedings relating to claims arising from the ordinary course of business.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Dividend Policy

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and future earnings, if any, to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination regarding the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant. Our future ability to pay cash dividends on our capital stock may also be limited by the terms of any future debt or preferred securities or future credit facility.

Stockholders

Our common stock is listed on the Nasdaq Global Market under the symbol "SNSE". As of March 10, 2022, we had 30,682,813 shares of common stock outstanding held by 230 holders of record. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Use of Proceeds from Initial Public Offering of Common Stock

On February 3, 2021, our Registration Statement on Form S-1, as amended (File No. 333-252704) was declared effective in connection with our initial public offering, or IPO, pursuant to which we sold 8,030,295 shares of our common stock, including the partial exercise of the underwriters' option to purchase additional shares, at a price to the public of $19.00 per share. The initial closing of our initial public offering occurred on February 8, 2021. We received net proceeds from the initial public offering of $138.5 million (after deducting underwriters' discounts and commissions and additional offering related costs of $14.1 million). Citigroup, Piper Sandler & Co. and Berenberg acted as joint book-running managers for the IPO. Oppenheimer & Co. acted as the lead manager for the IPO.

No expenses incurred by us in connection with our initial public offering were paid directly or indirectly to (i) any of our officers or directors or their associates, (ii) any persons owning 10% or more of any class of our equity securities, or (iii) any of our affiliates, other than payments in the ordinary course of business to officers for salaries and to non-employee directors as compensation for board or board committee service.

There has been no material change in the planned use of proceeds from our initial public offering from those disclosed in the final prospectus for our initial public offering dated as of February 3, 2021 and filed with the SEC on February 4, 2021 pursuant to Rule 424(b)(4).

Recent Sales of Unregistered Securities

Not applicable.

Purchases of Equity Securities by the Issuer and Affiliated Parties

None.

Item 6. Reserved.

Item 7. 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 our consolidated financial statements and the related notes and other financial information included elsewhere in this Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Form 10-K, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review the "Risk Factors" section of this Form 10-K for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a biopharmaceutical company engaged in the discovery, development, and delivery of next-generation immunotherapies with an initial focus on treatments for cancer. Our focus is to leverage well characterized biological targets to generate novel product candidates that incorporate next generation technologies or approaches. We have built a robust set of R&D capabilities and infrastructure to support the discovery and advancement of our product candidates. Our goal is to efficiently develop these product candidates by incorporating state-of-the-art biomarker approaches and mechanistic understanding into clinical trial designs targeted to well-defined patient populations. Therapeutic drugs targeting the programmed cell death protein 1, or PD-1, and its related ligand, or PD-L1, have emerged as one of the most promising classes of therapeutics for the treatment of cancer. Drugs utilizing PD-1 blockade have been approved by the FDA to treat at least 20 different types of cancer and, in 2020, generated sales of approximately $30 billion worldwide. By 2026, the total global market for drugs utilizing PD-1 blockade is estimated to exceed $90 billion. However, despite the widespread us of checkpoint inhibitors, approximately 70% of patients do not achieve survival benefit from treatment. Common patterns associated with non-response to PD-1 blockade treatment are immune-excluded or segregated tumors, where T-cells are present but trapped in the adjacent stroma and immune-ignored tumors, where there is an overall paucity of T cells in the tumor. A third important group of PD-1 non-responsive tumor are those that are inflamed, but which don't respond to PD-1 blockade monotherapy.

We have developed two platforms that are designed to address resistance to immunotherapy. Our TMAb (Tumor Microenvironment Activated Biologics) platform generates next-generation antibodies that block key immune checkpoints selectively within the tumor microenvironment. Our ImmunoPhage platform is a pioneering approach to cancer therapy that utilizes and combines aspects of vaccine, gene therapy, and personalized medicine approaches. Both platforms are designed to work independently or have the potential to be combined for to create powerful rational drug combinations.

Since our inception, we have devoted the majority of our efforts and financial resources to research and development activities related to our TMAb and ImmunoPhage platforms and our other product candidates, including raising capital, protecting our intellectual property portfolio and conducting preclinical studies and clinical trials. We do not have any product candidates approved for sale, have not generated any revenue from product sales, and do not expect to generate any revenue from product sales for at least the next several years. We have largely funded our operations with proceeds from the sale of convertible preferred stock, common stock and convertible debt. Through the date of this report, we have raised an aggregate of $123.4 million of gross proceeds from private placements of our equity and convertible debt securities and net proceeds of $138.5 million from our initial public offering, or IPO, in February 2021.

We have incurred significant operating losses over the last several years. Our net loss was $36.8 million and $20.1 million for the years ended December 31, 2021 and 2020, respectively. As of December 31, 2021, we had an accumulated deficit of $149.2 million. We expect to continue to incur significant expenses and operating losses for the foreseeable future. We anticipate that our expenses will increase significantly in connection with our ongoing activities, as we:

- prepare to file INDs and then initiate clinical development of our product candidates, including SNS-101 and SNS-401-NG;
- continue the research and development of our other product candidates;
- invest in our TMAb and ImmunoPhage platforms;
- seek to discover and develop additional product candidates or acquire or in-license drugs, product candidates or technologies;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing and distribution infrastructure and scale up manufacturing capabilities to commercialize any product candidates for which we may obtain regulatory approval;
- manufacture our product candidates or otherwise secure the clinical and commercial supply of our product candidates;
- hire additional research and development and selling, general and administrative personnel;

- maintain, expand and protect our intellectual property portfolio; and
- incur additional costs associated with operating as a public company.

Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our accounts payable and accrued expenses. We expect to continue to incur net losses and negative cash flows for the foreseeable future, and we expect our research and development expenses, general and administrative expenses, and capital expenditures will continue to increase. In particular, we expect our expenses to increase as we continue our development of, and seek regulatory approvals for, our product candidates, as well as hire additional personnel, pay fees to outside consultants, lawyers and accountants, and incur other increased costs associated with being a public company. In addition, if we seek and obtain regulatory approval to commercialize any product candidate, we will also incur increased expenses in connection with commercialization and marketing of any such product.

Impact of COVID-19

In March 2020, COVID-19 was declared a global pandemic by the World Health Organization ("WHO") and to date, the COVID-19 pandemic continues to present a substantial public health and economic challenge around the world. The length of time and full extent to which the COVID-19 pandemic will directly or indirectly impact our business, results of operations and financial condition will depend on future developments that are highly uncertain, subject to change and are difficult to predict. While we continue to conduct our research and development activities, the COVID-19 pandemic may cause disruptions that impact the timing of our planned and ongoing studies and clinical trials and affect our ability to complete preclinical studies, future clinical trials or to procure items that are essential for our research and development activities.

In addition, a further recurrence of COVID-19 cases could cause other widespread or more severe impacts depending on where infection rates are highest. We plan to continue to closely monitor the ongoing impact of the COVID-19 pandemic on our employees and our business operations, as we deal with the disruptions and uncertainties relating to the COVID-19 pandemic. In an effort to provide a safe work environment for our employees, we have, among other things, implemented various social distancing measures in our office and labs including replacing in-person meetings with virtual interactions, and are working remotely when possible. We expect to continue to take actions as may be required or recommended by government authorities or as we determine are in the best interests of our employees and other business partners in light of the pandemic. To date, there has not been a significant impact on our product candidate development or on the rest of our pipeline; however we cannot at this time predict the specific extent, duration, or full impact that the COVID-19 pandemic could potentially have on our ongoing business plan, financial condition and operations.

Components of Our Results of Operations

Operating Expenses

Research and Development Expense

Our research and development expense consists of expenses incurred in connection with the discovery and development of our product candidates. These expenses include:

- expenses incurred under agreements with CROs, as well as investigative sites and consultants that conduct our clinical trials and preclinical studies;
- the cost of manufacturing our product candidates including the potential cost of CMOs that manufacture product for use in our preclinical studies and clinical trials and perform analytical testing, scale-up and other services in connection with our development activities;
- the cost of outsourced professional scientific development services;
- employee-related expenses, including salaries, benefits and stock-based compensation for employees engaged in the research and development function;
- expenses relating to regulatory activities, including filing fees paid to regulatory agencies;
- fees for maintaining licenses and other amounts due under our third party licensing agreements;
- laboratory materials and supplies used to support our research activities; and
- allocated expenses for utilities and other facility-related costs.

We expense all research and development costs in the periods in which they are incurred. Costs for certain research and development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and third-party service providers.

We do not track our research and development expenses by program. Our direct external research and development expenses consist primarily of external costs, such as fees paid to CROs, CMOs, research/testing laboratories and outside consultants in connection with our preclinical development, process development, manufacturing and clinical development activities. We do not allocate these costs to specific product candidates because many of them are deployed across several of our development programs and, as such, are not separately classified. We use internal resources primarily to conduct research and manage our preclinical development, outsourced clinical trials, process development, manufacturing and clinical development activities. These employees work across multiple development programs and, therefore, we do not track their costs by program and, as such, are not separately classified. Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect our research and development expenses to increase significantly over the next several years as we increase personnel costs, including stock-based compensation, conduct clinical trials and prepare regulatory filings for our product candidates.

The successful development of our product candidates is highly uncertain. At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the remainder of the development of, or when, if ever, material net cash inflows may commence from any of our other product candidates. This uncertainty is due to the numerous risks and uncertainties associated with the duration and cost of clinical trials, which vary significantly over the life of a project as a result of many factors, including:

- the scope, progress, outcome and costs of our preclinical studies and clinical trials for our current product candidates and any other product candidates we may acquire or develop;
- manufacturing of our product candidates or making arrangements with potential third-party manufacturers for both clinical and commercial supplies of these product candidates;
- successful patient enrollment in, and the initiation, duration and completion of clinical trials;
- the cost of gaining regulatory approvals for our product candidates, subject to the successful outcome of ongoing and future clinical trials; and
- the extent of any required post-marketing approval commitments to applicable regulatory authorities.

Our expenditures are subject to additional uncertainties, including the terms and timing of regulatory approvals, and the expense of filing, prosecuting, defending and enforcing any patent claims or other intellectual property rights. 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. A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA or other regulatory authorities were to require us to conduct clinical trials beyond those that we currently anticipate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development. Product commercialization will take several years and significant additional development costs.

General and Administrative Expense

General and administrative expenses consist principally of salaries and related costs for personnel in executive, administrative, finance and legal functions, including stock-based compensation, travel expenses and recruiting expenses. Other general and administrative expenses include facility related costs, patent filing and prosecution costs and professional fees for legal, auditing and tax services, and insurance costs.

We anticipate that our general and administrative expenses will increase as a result of increased payroll, expanded infrastructure and higher consulting, legal and tax-related services associated with maintaining compliance with Nasdaq listing and SEC requirements, accounting and investor relations costs, and director and officer insurance premiums associated with being a public company.

Alvaxa IPR&D

On May 18, 2020, we acquired Alvaxa Biosciences, or Alvaxa, in a cash and stock purchase pursuant to a Stock Purchase Agreement. Under the terms of the Stock Purchase Agreement, we acquired Alvaxa’s existing camelid nanobodies and other biomaterials, or the Biomaterials, expertise in nanobody discovery, as well as a license agreement with a research organization. The former majority shareholder of Alvaxa is our current Chief Research and Development Officer. Under the Stock Purchase Agreement,

we paid $197 thousand to settle liabilities assumed from Alvaxa and issued 304,376 shares of our common stock to the shareholders of Alvaxa. We have evaluated the acquisition under ASC 805, *Business Combinations* and determined this to be an asset acquisition.

The 304,376 shares of common stock was valued at $1.78 per share, or $541 thousand in total, based on a valuation determined with the assistance of a third party. We determined that substantially all the value acquired in the transaction related to the Biomaterials and represents in-process research and development, or IPR&D. The liabilities of $197 thousand assumed were related to previously incurred employee costs as well as contractually required vendor payments. The consideration transferred in this transaction was recorded as an expense in the IPR&D line item within our Statement of Operations during the year ended December 31, 2020.

Other Income (Expense)

Our other income (expense) consists of changes in the fair value of our derivative liability related to an embedded derivative on certain convertible debt, realized gain or loss on short-term investments, gain on debt extinguishments, accretion expense on short-term investments and interest expense.

Income Taxes

Since our inception, we have not recorded any income tax benefits for the net losses we have incurred or for the research and development tax credits earned in each year, as we believe, based upon the weight of available evidence, that it is more likely than not that all of our deferred tax assets will not be realized.

Results of Operations

Comparison of Years Ended December 31, 2021 and 2020

The following sets forth our results of operations for the years ended December 31, 2021 and 2020:

	Year Ended December 31,		
(in thousands)	**2021**	**2020**	**Change**
Operating expenses:			
Research and development	$ 21,662	$ 11,185	$ 10,477
General and administrative	15,820	7,528	8,292
Alvaxa IPR&D	—	738	(738)
Total operating expenses	37,482	19,451	18,031
Loss from operations	(37,482)	(19,451)	(18,031)
Total other income (expense)	688	(649)	1,337
Net loss	$ (36,794)	$ (20,100)	$ (16,694)

Research and Development Expenses

Research and development expenses were $21.7 million for the year ended December 31, 2021, compared to $11.2 million for the year ended December 31, 2020. The increase of $10.5 million was primarily attributable to $5.7 million of increased personnel cost, including stock-based compensation and incentives, and $3.6 million of additional expenses relating to lab supply purchases, both to support our research, development and manufacturing activities, $0.5 million of higher consulting expenses related to our product candidate selection process, $0.5 million of higher equipment maintenance expenses relating to equipment qualification, $0.5 million relating to higher depreciation expense, $0.3 million relating to increased expenses for manufacturing contracts, $0.2 million of higher licensing fees, as well as $0.2 million of increased IT and computer related expenses. These increases were partially offset by decreases in expenses of $0.6 million relating to clinical trials, $0.3 million relating to outside research fees and $0.3 million relating to research fees.

General and Administrative Expenses

General and administrative expenses were $15.8 million for the year ended December 31, 2021, compared to $7.5 million for the year ended December 31, 2020. The increase of $8.3 million was primarily attributable to $4.8 million of increased personnel costs, including stock-based compensation and incentives, to support our business, as well as $2.4 million of higher costs for directors and officers insurance, $1.4 million of increased professional service fees, $0.3 million related to increased marketing and promotion expenses $0.3 million relating to board fees, $0.2 million relating to increased office supplies expense, $0.2 million of increased travel and entertainment expense, $0.1 million of increased expenses relating to higher IT and computer costs and $0.1 million relating to

higher subscription fees, partially offset by $1.3 million lower expenses relating to offering support and $0.5 million of lower expenses relating to Alvaxa stock compensation expense booked in 2020.

Other Income (Expense)

Other income was $0.7 million for the year ended December 31, 2021, compared to other expense of $0.6 million for the year ended December 31, 2020. The increase of $1.3 million was primarily attributable to a $0.6 million loss on fair value adjustments of embedded derivative liabilities associated with certain convertible debt in 2020, a gain on debt extinguishment of $0.6 million relating to the SBA approving the forgiveness for the full amount of the PPP Loan, plus interest, in 2021 and a $0.2 million increase relating to interest on investments.

Comparison of Years Ended December 31, 2020 and 2019

The following sets forth our results of operations for the years ended December 31, 2020 and 2019:

	Year Ended December 31,		
(in thousands)	**2020**	**2019**	**Change**
Operating expenses:			
Research and development	$ 11,185	$ 8,350	$ 2,835
General and administrative	7,528	4,085	3,443
Alvaxa IPR&D	738	—	738
Total operating expenses	19,451	12,435	7,016
Loss from operations	(19,451)	(12,435)	(7,016)
Total other expense	(649)	(4,305)	3,656
Net loss	$ (20,100)	$ (16,740)	$ (3,360)

Research and Development Expenses

Research and development expenses were $11.2 million for the year ended December 31, 2020, compared to $8.4 million for the year ended December 31, 2019. The increase of $2.8 million was primarily attributable to investments being made in early research and development activities and the clinical and preclinical development of SNS-301, SNS-401 and SNS-101.

General and Administrative Expenses

General and administrative expenses were $7.5 million for the year ended December 31, 2020, compared to $4.1 million for the year ended December 31, 2019. The increase of $3.4 million was primarily attributable to consulting fees for strategic and development-related advice, stock-based compensation expense resulting from new stock award grants during 2020, and additional recruiting fees incurred for the hiring of additional team resources.

Other Expense

Other expense was $0.6 million for the year ended December 31, 2020, compared to $4.3 million for the year ended December 31, 2019. The decrease of $3.7 million was primarily attributable to fair value adjustments of embedded derivative liabilities associated with certain 2019 promissory notes, as well as lower interest expense on debt due to the redemption of notes in 2020.

Liquidity and Capital Resources

Sources of Liquidity

We have not generated any product revenue and have incurred net losses and negative cash flows from our operations. We have financed our operations through sales of our common stock, convertible preferred stock and convertible debt. Through the date of this report, we have raised an aggregate of $123.4 million of gross proceeds from private placements of our equity and convertible debt securities and net proceeds of $138.5 million from our initial public offering, or IPO, in February 2021.Our net loss was $36.8 million and $20.1 million for the years ended December 31, 2021 and 2020, respectively. As of December 31, 2021, we had an accumulated deficit of $149.2 million Our primary use of cash is to fund operating expenses, which consist primarily of research and development expenditures, and to a lesser extent, general and administrative expenditures.

As of December 31, 2021, we had cash, cash equivalents and marketable securities of $147.6 million. Of this amount we have short-term liquidity of $79.5 million in cash, cash equivalents and marketable securities with maturities of one year or less and long-term liquidity of $68.1 million relating to marketable securities with maturities of greater than one year. From December 2020 to January 2021, we issued and sold 165,956,208 shares of Series BB convertible preferred stock to a group of investors, in exchange for $34.4 million of new gross proceeds, of which approximately $10.9 million was received in December 2020. In February 2021, we issued an aggregate of 8,030,295 shares of common stock in our initial public offering at a price to the public of $19.00 per share, for aggregate gross proceeds of $152.6 million. We paid underwriting discounts and commissions of $10.7 million, and we also incurred expenses of $3.4 million in connection with the offering. As a result, the net offering proceeds to us, after deducting underwriting discounts and commissions and offering expenses, were $138.5 million.

Cash Flows

The following table summarizes our sources and uses of cash for each of the periods below:

	Year Ended December 31,	
(in thousands)	**2021**	**2020**
Net cash used in operating activities	$ (30,259)	$ (17,705)
Net cash used in investing activities	(143,118)	(1,403)
Net cash provided by financing activities	163,940	35,453
Net (decrease) increase in cash and cash equivalent	$ (9,437)	$ 16,345

Operating Activities

During the year ended December 31, 2021, our operating activities used $30.3 million of cash, primarily resulting from our net loss. During the year ended December 31, 2020, operating activities used $17.7 million of cash, primarily resulting from our net loss. The increase in net cash used in operating activities for the year ended December 31, 2021 as compared to the year ended December 31, 2020 is attributed to an increase in personnel and an increase in both our research and development and general and administrative expenses.

Investing Activities

During the year ended December 31, 2021, net cash used in investing activities was $143.1 million, primarily resulting from our investments of our net proceeds from our initial public offering and Series AA and Series BB convertible preferred stock financings in short-term marketable securities. During the year ended December 31, 2020, net cash used was $1.4 million from the purchase of Alvaxa and purchases of property and equipment.

Financing Activities

During the year ended December 31, 2021, net cash provided by financing activities was $163.9 million, primarily from the net proceeds from the issuance of common stock in our initial public offering, as well as proceeds from the issuance of Series BB convertible preferred stock prior to the initial public offering. During the year ended December 31, 2020, net cash provided by financing activities was $35.5 million, primarily from the issuance of our Series AA and Series BB convertible preferred stock, as well as $0.6 million received in unsecured loan funding from the Paycheck Protection Program, offset by approximately $2.1 million of initial public offering costs.

Material Cash Requirements

Our material cash requirements will have an impact on our future liquidity. Our material cash requirements represent material expected or contractually committed future payment obligations. We believe that we will be able to fund these obligations through cash from our existing balances of cash, cash equivalents and marketable securities.

Operating Leases

We have operating lease arrangements for our corporate offices and lab facilities. As of December 31, 2021, we had operating lease payment obligations of $8.0 million, with $1.6 million payable within 12 months. See note 7 in our annual financial statements included elsewhere in this Form 10-K for additional information.

Capital Leases

We lease research equipment under a capital finance lease. The capital lease asset is classified within property and equipment, net within our condensed consolidated balance sheets. As of December 31, 2021, we had capital lease payment obligations of $2.3 million, with $0.7 million payable within 12 months. See note 7 in our annual financial statements included elsewhere in this Form 10-K for additional information.

In the pharmaceutical industry, it can take a significant amount of time and capital resources to successfully complete all stages of research and development and commercialize a product candidate. The ultimate length of time and spend required cannot be accurately estimated as it varies substantially according to the type, complexity, novelty and intended use of a product candidate. Please see the "Funding Requirements" section below for further details.

Funding Requirements

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development of, continue or initiate clinical trials of, and potentially seek marketing approval for, our product candidates. In addition, we expect to incur significant costs associated with operating as a newly public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company. The timing and amount of our operating expenditures will depend largely on:

- the initiation, progress, timing, costs and results of current and future preclinical studies and clinical trials for SNS-101 and SNS-401-NG and our other product candidates;
- the cost and timing of the manufacture of additional clinical trial material as well as any costs related to the scale-up of manufacturing activities;
- the costs to seek regulatory approvals for any product candidates that successfully complete clinical trials;
- the extent to which we or any third-party service providers on whom we rely experience delays or interruptions to preclinical studies and clinical trials, or to our supply chain due to the COVID-19 pandemic;
- the need to hire additional clinical, quality assurance, quality control and other scientific personnel;
- the number and characteristics of product candidates that we develop or may in-license;
- the outcome, timing and cost of meeting and maintaining compliance with regulatory requirements;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the terms of any collaboration agreements we may choose to enter into, including the achievement of milestones or occurrence of other developments that trigger payments under any license or collaboration agreements we might have at such time;
- the cost associated with the expansion of our operational, financial and management systems and increased personnel, including personnel to support our operations as a public company; and
- the cost of establishing sales, marketing and distribution capabilities for any product candidates for which we may receive regulatory approval in regions where we choose to commercialize our products, if approved, on our own.

We expect our existing cash, cash equivalents and marketable securities will enable us to fund our operating expenses and capital expenditure requirements at least into the first half of 2024. We have based this estimate on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the scope, progress, results and costs of product discovery, preclinical studies and clinical trials;
- the scope, prioritization and number of our research and development programs;
- the costs, timing and outcome of regulatory review of our product candidates;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the extent to which we are obligated to reimburse, or entitled to reimbursement of, clinical trial costs under collaboration agreements, if any;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;

- the extent to which we acquire or in-license other product candidates and technologies;
- the costs of securing manufacturing arrangements for commercial production;
- the costs of establishing or contracting for sales and marketing capabilities if we obtain regulatory approvals to market our product candidates; and
- the impact of the COVID-19 pandemic and the corresponding responses of businesses and governments.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. We do not currently 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 interest may be materially diluted, and the terms of such securities could include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include restrictive covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. In addition, debt financing would result in fixed payment obligations.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Critical Accounting Estimates

This Management's Discussion and Analysis of Financial Condition and Results of Operations is based on our financial statements, which are prepared in accordance with US GAAP. The preparation of our financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, costs and expenses. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates.

We define our critical accounting policies as those accounting principles that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. While our significant accounting policies are described in note 2 to our annual financial statements beginning on page F-1 of this Form 10-K, we believe the following are the critical accounting policies used in the preparation of our financial statements that require significant estimates and judgments.

Accrued Research and Development Expenses

We incur expenses associated with preclinical development and clinical trials. Accounting for preclinical or clinical activities relating to work performed by CROs and other external vendors requires management to exercise significant estimates in regard to the timing and accounting for these expenses. We estimate costs of research and development activities conducted by service providers, which include, the conduct of sponsored research, preclinical studies and contract manufacturing activities. The diverse nature of services being provided under CRO and other arrangements, the different compensation arrangements that exist for each type of service and the lack of timely information related to certain clinical activities complicates the estimation of accruals for services rendered by CROs and other vendors in connection with clinical trials. We record the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced and include these costs in the accrued and other current liabilities or prepaid expenses on the balance sheets and within research and development expense on the consolidated statements of operations. We determine the estimated costs through discussions with the internal personnel and external service providers as to the progress, or stage of completion of the services and the agreed-upon fees to be paid for such services. This process involves a thorough review of open contracts and evaluation by internal personnel to identify services received that have been performed for us and estimating the associated cost incurred for these services for which we have not yet been invoiced or otherwise notified of the actual cost. In estimating the duration of a clinical study, we evaluate the start-up, treatment and wrap-up periods, compensation arrangements and services rendered attributable to each clinical trial and fluctuations are regularly tested against payment plans and trial completion assumptions.

Our expenses related to clinical trials are based on estimates of patient enrollment and related expenses at clinical investigator sites as well as estimates for the services received and efforts expended pursuant to contracts with multiple research institutions and

CROs that may be used to conduct and manage clinical trials on our behalf. We determine the estimated costs through discussions with internal personnel and external service providers as to the progress, or stage of completion of the services and the agreed-upon fees to be paid for such services. We generally accrue expenses related to clinical trials based on contracted amounts applied to the level of patient enrollment and activity. If timelines or contracts are modified based upon changes in the clinical trial protocol or scope of work to be performed, we modify our estimates of accrued expenses accordingly on a prospective basis.

Stock-Based Compensation

We measure all stock-based awards granted based on their estimated fair value on the date of the grant and recognize the corresponding compensation expense for those awarded to employees and directors over the requisite service period, which is generally the vesting period of the respective award, and for those awarded to nonemployees over the period during which services are rendered by nonemployees until completed. We have typically issued stock options and warrants with service-based vesting conditions and we record the expense for these awards using the straight-line method.

We estimate the fair value of each stock option grant using the Black-Scholes option-pricing model, which uses as inputs the closing price of our common stock and assumptions we make for the volatility of our common stock, the expected term of our stock options and warrants, the risk-free interest rate for a period that approximates the expected term of our stock options and warrants and our expected dividend yield. The fair value of our stock options and warrants on the date of grant, prior to February 3, 2021, was determined by us with the assistance of a third-party valuation specialist in accordance with the guidance in the American Institute of Certified Public Accountants Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation, as our common stock was not actively traded.

Recent Accounting Pronouncements

See note 2 in our annual financial statements included elsewhere in this Form 10-K for a description of recent accounting pronouncements applicable to our financial statements. Other than as disclosed in our financial statements, we do not expect that any recently issued accounting standards will have a material impact on our financial statements or will otherwise apply to our operations.

Emerging Growth Company and Smaller Reporting Company Status

We qualify as an EGC, as defined in the JOBS Act. As an EGC, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies, including reduced disclosure about our executive compensation arrangements, exemption from the requirements to hold non-binding advisory votes on executive compensation and golden parachute payments and exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions until the last day of the fiscal year following the fifth anniversary of our initial public offering or such earlier time that we are no longer an emerging growth company. We would cease to be an EGC earlier if we have more than $1.07 billion in annual revenue, we have more than $700.0 million in market value of our stock held by non-affiliates (and we have been a public company for at least 12 months and have filed one annual report on Form 10-K) or we issue more than $1.0 billion of non-convertible debt securities over a three-year period. For so long as we remain an EGC, we are permitted, and intend, to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not EGCs. We may choose to take advantage of some, but not all, of the available exemptions.

In addition, the JOBS Act provides that an EGC can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an EGC to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected not to “opt out” of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised 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 EGC. Therefore, the reported results of operations contained in our consolidated financial statements may not be directly comparable to those of other public companies.

We are also a “smaller reporting company,” meaning that the market value of our stock held by non-affiliates is less than $700 million and our annual revenue was less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than $250 million or (ii) our annual revenue is less than $100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700 million.

If we are a smaller reporting company at the time we cease to be an EGC, 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 EGCs, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are a smaller reporting company as defined by Item 10 of Regulation S-K and are not required to provide the information otherwise required under this item.

Item 8. Financial Statements and Supplementary Data.

The financial statements required to be filed pursuant to this Item 8 are appended to this Annual Report on Form 10-K. An index of those financial statements is found in Item 15, Exhibits and Financial Statement Schedules, of this Annual Report on Form 10-K.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), evaluated the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act as of December 31, 2021. Our disclosure controls and procedures are designed to provide reasonable assurance that information we are required to disclose in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosures, and is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Based on this evaluation, our CEO and CFO have concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of December 31, 2021.

Management's Report on Internal Control over Financial Reporting and Attestation Report of the Registered Public Accounting Firm

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as defined in the Exchange Act Rule 13a-15(f). Management conducted an assessment of our internal control over financial reporting based on the framework established in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control—Integrated Framework. Based on the assessment, management concluded that, as of December 31, 2021, our internal control over financial reporting was effective.

This Annual Report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting as required by Section 404(c) of the Sarbanes Oxley Act of 2002. Because we qualify as an emerging growth company under the JOBS Act, management's report was not subject to attestation by our independent registered public accounting firm.

Changes in Internal Control Over Financial Reporting

During the audit of our financial statements for the year ended December 31, 2020, two material weaknesses were identified in our internal control over financial reporting. Under standards established by the PCAOB, a "material weakness" is a deficiency, or combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the financial statements will not be prevented or detected on a timely basis. The material weaknesses that were identified related to lack of segregation of duties, lack of a risk assessment process and lack of contemporaneous documentation and accounting analysis.

We took actions to remediate the material weakness relating to our internal controls over financial reporting, as described below. The controls and processes we implemented to remediate the identified material weakness included:

• hiring qualified personnel with experience in accounting and financial reporting which also provided segregation of duties within our internal control procedures to support the accurate reporting of our financial results;

• replacing outdated legacy systems with updated enterprise resource planning and equity management systems; and

• designing and implementing the risk assessment process.

As a result of the remediation activities and controls in place as of December 31, 2021 described above, we have remediated these previously disclosed material weaknesses. However, completion of remediation does not provide assurance that our remediated controls will continue to operate properly or that our financial statements will be free from error.

Inherent Limitations on Effectiveness of Controls

Management recognizes that a control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud or error, if any, have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information.

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions That Prevent Inspections

Not applicable.

PART III

We will file a definitive Proxy Statement for our 2022 Annual Meeting of Stockholders (the “2022 Proxy Statement”) with the SEC, pursuant to Regulation 14A, not later than 120 days after the end of our fiscal year. Accordingly, certain information required by Part III has been omitted under General Instruction G(3) to Form 10-K. Only those sections of the 2022 Proxy Statement that specifically address the items set forth herein are incorporated by reference.

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by Item 10 is hereby incorporated by reference to the sections of the 2022 Proxy Statement under the captions "Information Regarding the Board of Directors and Corporate Governance," "Election of Directors," "Executive Officers" and "Section 16(a) Beneficial Ownership Reporting Compliance."

The information required by this item is incorporated herein by reference to the definitive Proxy Statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

Item 11. Executive Compensation.

The information required by Item 11 is hereby incorporated by reference to the sections of the 2022 Proxy Statement under the captions "Executive Compensation" and "Non-Employee Director Compensation."

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by Item 12 is hereby incorporated by reference to the sections of the 2022 Proxy Statement under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Securities Authorized for Issuance under Equity Compensation Plans.”

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by Item 13 is hereby incorporated by reference to the sections of the 2022 Proxy Statement under the captions "Transactions with Related Persons" and "Independence of the Board of Directors."

Item 14. Principal Accounting Fees and Services.

The information required by Item 14 is hereby incorporated by reference to the sections of the 2022 Proxy Statement under the caption "Ratification of Selection of Independent Auditors."

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(1) Exhibits

Exhibit Number	Description
2.1+^	Stock Purchase Agreement, by and among Sensei Biotherapeutics, Inc. and the stockholders of Alvaxa Biosciences, Inc., dated as of May 18, 2020 (incorporated by reference to Exhibit 2.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-39980), filed with the SEC on February 11, 2021).
3.2	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-39980), filed with the SEC on February 11, 2021).
4.1	Investors' Rights Agreement, dated as of December 29, 2020, by and among the Registrant and certain of its stockholders (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
4.2	Forms of Warrant to Purchase Common Stock (incorporated by reference to Exhibits 4.2, 4.3 and 4.4 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
4.3	Description of Securities (incorporated by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K (File No. 001-39980)).
10.1#	Sensei Biotherapeutics, Inc. 2018 Equity Incentive Plan, as amended, and forms of agreements thereunder (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.2#	Sensei Biotherapeutics, Inc. 2021 Equity Incentive Plan and forms of agreements thereunder (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.3+	Non-exclusive License Agreement, by and between Alvaxa Biosciences, Incorporated and Fred Hutch Cancer Research Center, dated as of January 3, 2020 (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.4#	Form of Indemnification Agreement entered into by and between Sensei Biotherapeutics, Inc. and each director and executive officer (incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.5	Independent Contractor and Strategic Advisory Services Agreement entered into by and between Sensei Biotherapeutics, Inc. and Samuel Broder M.D., dated as of May 8, 2018, as amended on April 5, 2020 (incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.6	Lease Agreement, by and between Sensei Biotherapeutics, Inc. and Are-Maryland No. 8 Corp., dated as of October 22, 2020 (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.7#	Sensei Biotherapeutics, Inc. 2021 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.8#	Amended and Restated Employment Agreement, by and between Sensei Biotherapeutics, Inc. and John Celebi, dated as of January 28, 2021 (incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.9#	Amended and Restated Employment Agreement, by and between Sensei Biotherapeutics, Inc. and Marie-Louise Fjaellskog, dated as of January 28, 2021 (incorporated by reference to Exhibit 10.13 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.10#	Amended and Restated Employment Agreement, by and between Sensei Biotherapeutics, Inc. and Robert H. Pierce, dated as of January 28, 2021 (incorporated by reference to Exhibit 10.14 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.11#	Amended and Restated Employment Agreement, by and between Sensei Biotherapeutics, Inc. and Anupama Hoey, dated as of January 28, 2021 (incorporated by reference to Exhibit 10.15 to the Registrant's Registration Statement on Form S-1 (File No. 333-252138)).
10.12*#	Non-Employee Director Compensation Policy.
10.13*	Separation from Employment Letter and Separation Agreement, by and between Sensei Biotherapeutics, Inc. and Marie-Louise Fjaellskog, dated as of December 1, 2021.
10.14*	Boston Lease

10.15#	First Amended and Restated Employment Agreement, dated April 28, 2021, by and between the Company and Erin Colgan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No 001-39980) file with the SEC on May 3, 2021).
10.16*	Amended and Restated Employment Agreement dated January 1, 2022, by and between the Company and Erin Colgan
21.1*	Subsidiaries of the Registrant
23.1*	Consent of Deloitte & Touche LLP, independent registered public accounting firm.
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

* Filed herewith.
** This certification is being furnished solely to accompany this Annual Report pursuant to 18 U.S.C. Section 1350, and are not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.
+ Portions of this exhibit (indicated by asterisks) have been omitted as the Registrant has determined that (i) the omitted information is not material and (ii) the omitted information would likely cause competitive harm if publicly disclosed.
# Indicates management contract or compensatory plan.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized**.**

Sensei Biotherapeutics, Inc.

Date: March 15, 2022 By: /s/ John Celebi
John Celebi
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name	Title	Date
/s/ John Celebi **John Celebi**	President, Chief Executive Officer and Director (*Principal Executive Officer*)	March 15, 2022
/s/ Erin Colgan **Erin Colgan**	Chief Financial Officer (Principal Financial and Accounting Officer*)*	March 15, 2022
/s/ William Ringo **William Ringo**	Chair	March 15, 2022
/s/ Bob Holmen **Bob Holmen**	Director	March 15, 2022
/s/ James Peyer, Ph.D. **James Peyer, Ph.D.**	Director	March 15, 2022
/s/ Samuel Broder, M.D. **Samuel Broder, M.D.**	Director	March 15, 2022
/s/ Thomas Ricks **Thomas Ricks**	Director	March 15, 2022
/s/ Deneen Vojta **Deneen Vojta**	Director	March 15, 2022
/s/ Jessie English **Jessie English**	Director	March 15, 2022
/s/ Kristian Humer **Kristian Humer**	Director	March 15, 2022

SENSEI BIOTHERAPEUTICS, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Sensei Biotherapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sensei Biotherapeutics, Inc. and subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of operations and comprehensive loss, convertible preferred stock, common stock and stockholders' equity (deficit), and cash flows, for each of the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

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. 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 risks 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/ Deloitte & Touche LLP

Baltimore, Maryland

March 15, 2022

We have served as the Company's auditor since 2016.

SENSEI BIOTHERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data)

	December 31, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 7,159	$ 16,596
Marketable securities	140,462	—
Deferred offering costs	—	2,105
Prepaid expenses	547	1,375
Other current assets	374	—
Total current assets	148,542	20,076
Property and equipment, net	4,644	1,266
Other non-current assets	39	86
Total assets	$ 153,225	$ 21,428
Liabilities, convertible preferred stock and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable and accrued liabilities	$ 2,456	$ 3,882
Compensation and employee benefits	1,753	916
Capital lease liabilities	680	32
Total current liabilities	4,889	4,830
Debt	—	567
Capital lease liabilities	1,674	86
Other non-current liabilities	149	52
Total liabilities	6,712	5,535
Commitments and contingencies (Note 7)		
Convertible preferred stock (Series AA) (Note 8)	—	61,411
Convertible preferred stock (Series BB) (Note 8)	—	10,925
Stockholders' equity (deficit):		
Common stock, $0.0001 par value and 250,000,000 shares authorized as of December 31, 2021; 30,609,029 and 1,875,422 shares issued and outstanding at December 31, 2021 and December 31, 2020, respectively	3	—
Additional paid-in capital	296,049	55,969
Accumulated deficit	(149,206)	(112,412)
Accumulated other comprehensive loss	(333)	—
Total stockholders' equity (deficit)	146,513	(56,443)
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	$ 153,225	$ 21,428

The accompanying notes are an integral part of these consolidated financial statements.

SENSEI BIOTHERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except share and per share data)

	Year Ended December 31,	
	2021	2020
Operating expenses:		
Research and development	$ 21,662	$ 11,185
General and administrative	15,820	7,528
Alvaxa IPR&D	—	738
Total operating expenses	37,482	19,451
Loss from operations	(37,482)	(19,451)
Other income (expense):		
Interest income	800	—
Interest expense, including $0 and $645 with related parties in 2021 and 2020, respectively	(670)	(1,689)
Fair value adjustments on embedded debt derivatives, including $0 and $575 with related parties in 2021 and 2020, respectively	—	995
Loss on fixed asset disposal	(9)	—
Gain on debt extinguishment	567	45
Net loss	(36,794)	(20,100)
Cumulative dividends on convertible preferred stock	—	(104)
Net loss attributable to common stockholders	(36,794)	(20,204)
Net loss per common share, basic and diluted	$ (1.33)	$ (12.53)
Weighted-average number of shares used in computing net loss per common share, basic and diluted	27,710,686	1,612,140
Comprehensive loss:		
Net loss attributable to common stockholders	$ (36,794)	$ (20,204)
Other comprehensive items:		
Unrealized loss on marketable securities	(333)	—
Total other comprehensive loss	(333)	—
Total comprehensive loss	$ (37,127)	$ (20,204)

The accompanying notes are an integral part of these consolidated financial statements.

SENSEI BIOTHERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK, COMMON STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
(In thousands, except share data)

	Convertible Preferred Stock (Series A-F)		Convertible Preferred Stock (Series AA)		Convertible Preferred Stock (Series BB)		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			Amount	
Balance at January 1, 2020	15,257,663	$ 47,545	—	$ —	—	$ —	369,491	$ —	$ 23,650	$ (92,312)	$ —	$ (68,662)
Stock-based compensation expense	—	—	—	—	—	—	—	—	1,492	—	—	1,492
Conversion of series A,B,C,D,E,F preferred stock into common stock	(15,257,663)	(47,545)	—	—	—	—	627,871	—	47,545	—	—	47,545
Conversion of common stock into series AA preferred stock	—	—	210,310,025	17,274	—	—	(148,732)	—	(17,274)	—	—	(17,274)
Preferred stock issued in exchange for note redemption	—	—	219,764,872	18,050	—	—	—	—	—	—	—	—
Issuance of series AA preferred stock	—	—	317,608,275	26,087	—	—	—	—	—	—	—	—
Issuance of series BB preferred stock					52,680,306	10,925						—
Issuance of common stock	—	—	—	—	—	—	705,750	—	—	—	—	—
Exercise of options into common stock	—	—	—	—	—	—	16,666	—	15	—	—	15
Issuance of common stock related to Alvaxa IPR&D acquisition	—	—	—	—	—	—	304,376	—	541	—	—	541
Net loss	—	—	—	—	—	—	-	—	—	(20,100)	—	(20,100)
Balance at December 31, 2020	—	$ —	747,683,172	$ 61,411	52,680,306	$ 10,925	1,875,422	$ —	$ 55,969	$ (112,412)	$ —	$ (56,443)
Stock-based compensation expense	—	—	—	—	—	—	—	—	5,657	—	—	5,657
Issuance of series BB preferred stock					113,275,902	23,491	—	—	—	—	—	—
Conversion of preferred stock to common stock upon closing of the initial public offering	—	—	(747,683,172)	(61,411)	(165,956,208)	(34,416)	19,034,069	2	95,826	—	—	95,828
Issuance of common stock, net of issuance costs	—	—	—	—	—	—	8,030,295	1	138,488	—	—	138,489
Exercise of options into common stock							8,834	—	28	—	—	28
Issuance of common stock under the employee stock purchase plan	—	—	—	—	—	—	11,700	—	80	—	—	80
Exercise of common stock warrants	—	—	—	—	—	—	1,648,709	—	1	—	—	1
Unrealized loss on marketable securities	—	—	—	—	—	—	—	—	—	—	(333)	(333)
Net loss	—	—	—	—	—	—	-	—	—	(36,794)	—	(36,794)
Balance at December 31, 2021	—	$ —	$ —	$ —	—	$ —	30,609,029	$ 3	$ 296,049	$ (149,206)	$ (333)	$ 146,513

The accompanying notes are an integral part of these consolidated financial statements.

SENSEI BIOTHERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,	
	2021	**2020**
Operating activities		
Net loss	$ (36,794)	$ (20,100)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	5,657	1,492
Depreciation and amortization	685	209
Accretion on debt	—	1,578
Accretion on marketable securities	615	—
Fair value adjustments on embedded debt derivatives	—	(995)
Interest on capital lease	57	12
Gain on fixed asset disposal	(29)	—
Issuance of common stock for Alvaxa acquisition	—	541
Gain on debt extinguishment	(567)	(45)
Changes in operating assets and liabilities:		
Prepaid expenses	828	(1,124)
Other assets	(327)	361
Accounts payable and accrued liabilities	(1,426)	335
Accrued interest	—	53
Compensation and employee benefits	837	(271)
Other liabilities	205	249
Net cash used in operating activities	(30,259)	(17,705)
Investing activities		
Purchases of property and equipment	(2,026)	(1,206)
Proceeds from property and equipment disposals	318	—
Purchases of short-term investments	(183,669)	—
Sales of short-term investments	11,259	—
Maturities of short-term investments	31,000	—
Alvaxa IPR&D acquisition	—	(197)
Net cash used in investing activities	(143,118)	(1,403)
Financing activities		
Proceeds from the PPP loan	—	567
Proceeds from the exercise of common stock warrants and options	29	20
Deferred offering costs	—	(2,105)
Purchases related to employee stock purchase plan	80	—
Capital lease payments	(255)	(41)
Proceeds on the issuance of series AA convertible preferred stock	—	26,087
Proceeds on the issuance of series BB convertible preferred stock	23,492	10,925
'Proceeds from issuance of common stock upon initial public offering, net of issuance costs	140,594	—
Net cash provided by financing activities	163,940	35,453
Net (decrease) increase in cash and cash equivalents	(9,437)	16,345
Cash and cash equivalents at beginning of period	16,596	251
Cash and cash equivalents at end of period	$ 7,159	$ 16,596
Supplemental disclosure of noncash financing information:		
Property and equipment additions included in accounts payable and accrued liabilities	$ —	$ 204
Deferred offering costs included in accounts payable and accrued liabilities	$ —	$ 1,207
Interest on financing	$ 57	$ 12
Conversion of series A,B,C,D,E,F convertible preferred stock into common stock	$ —	$ 47,545
Conversion of series AA and BB convertible preferred stock into common stock	$ 95,826	$ —
Conversion of common stock into series AA convertible preferred stock	$ —	$ 17,274
Convertible preferred stock issued in exchange for note redemption	$ —	$ 18,050

The accompanying notes are an integral part of these consolidated financial statements.

1. ORGANIZATION AND OPERATIONS

Business

Sensei Biotherapeutics, Inc. (the "Company" or "Sensei") is a biopharmaceutical company that was incorporated in 1999 as a Maryland corporation until incorporated in Delaware on December 1, 2017. The Company is engaged in the discovery, development and delivery of next generation immunotherapies with an initial focus on treatments for cancer.

On May 18, 2020, the Company acquired Alvaxa Biosciences, Inc. ("Alvaxa") in a cash and stock purchase ("Stock Purchase Agreement"). Under the terms of the Stock Purchase Agreement, the Company acquired Alvaxa's existing camelid nanobodies and other biomaterials ("Biomaterials"), expertise in nanobody discovery, as well as a license agreement with a research organization. The former majority shareholder of Alvaxa is the Company's current Chief Research and Development Officer. Under the Stock Purchase Agreement, the Company paid $197 thousand to settle liabilities assumed from Alvaxa and issued 304,376 shares of the Company's common stock to the shareholders of Alvaxa. The Company has evaluated the acquisition under ASC 805, *Business Combinations* and determined this transaction to be an asset acquisition.

The 304,376 shares of common stock was valued at $541 thousand in total, based on a valuation determined with the assistance of a third party. The Company determined that substantially all the value acquired in the transaction related to the Biomaterials and represents in-process research and development ("IPR&D"). The liabilities of $197 thousand assumed were related to previously incurred employee costs as well as contractually required vendor payments. The consideration transferred in this transaction was recorded as an expense in the Alvaxa IPR&D line item within the Statement of Operations during the year ended December 31, 2020.

Liquidity and capital resources

Since its inception, the Company has devoted substantially all of its resources to advancing development of its portfolio of programs, establishing and protecting its intellectual property, conducting research and development activities, organizing and staffing the Company, business planning, raising capital and providing general and administrative support for these operations. The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry including, but not limited to, technical risks associated with the successful research, development and manufacturing of product candidates, 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. Current and future programs will require significant research and development efforts, including extensive preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure. Even if the Company's drug development efforts are successful, it is uncertain when, if ever, the Company will realize significant revenue from product sales.

Since its inception, the Company has incurred substantial losses and had a net loss of $36.8 million for the year ended December 31, 2021. As of December 31, 2021, the Company had an accumulated deficit of $149.2 million. The Company expects to generate operating losses and negative operating cash flows for the foreseeable future.

On February 3, 2021, the Company completed its initial public offering, or IPO, in which the Company issued and sold 8,030,295 shares of its common stock, including 1,030,243 shares pursuant to the full exercise of the underwriters' option to purchase additional shares, at a public offering price of $19.00 per share, for aggregate gross proceeds of $152.6 million. The Company received $138.5 million in net proceeds after deducting underwriting discounts and offering expenses payable by the Company.

The Company expects that its cash, cash equivalents and marketable securities, as of December 31, 2021 of $147.6 million will be sufficient to fund its operations for at least the next twelve months from the date of issuance of these financial statements. The Company will need additional financing to support its continuing operations and pursue its growth strategy. Until such time as the Company can generate significant revenue from product sales, if ever, it expects to finance its operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. The Company may be unable to raise additional funds or enter into such other agreements when needed on favorable terms or at all. The inability to raise capital as and when needed would have a negative impact on the Company's financial condition and its ability to pursue its business strategy. The Company will need to generate significant revenue to achieve profitability, and it may never do so.

Reverse stock split

On January 29, 2021, the Company effected a reverse stock split of the Company's common stock on a 48-for-1 basis (the "Reverse Stock Split"). In connection with the Reverse Stock Split, the conversion ratio for the Company's Series AA and Series BB convertible preferred stock was proportionately adjusted such that the common stock issuable upon conversion of such preferred stock was decreased in proportion to the Reverse Stock Split. Accordingly, all common stock share and per share amounts, as well as all preferred stock conversion ratios, for all periods presented in these financial statements have been retroactively adjusted, to reflect this reverse stock split and adjustment of the Series AA and BB convertible preferred stock conversion ratios.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Principles of Consolidation

The Company has prepared the accompanying consolidated financial statements in conformity with generally accepted accounting principles in the United States ("US GAAP"). The consolidated financial statements include those accounts of the Company and its subsidiaries after elimination of all intercompany accounts and transactions.

Use of Estimates

The preparation of consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of expenses during the reporting periods presented. Estimates are used for, but are not limited to, depreciation of equipment, fair value of financial instruments, the Company's ability to continue as a going concern and contingencies. Actual results may differ from those estimates.

Cash and Cash Equivalents

Cash equivalents are highly liquid investments with an original maturity of 90 days or less at the date of purchase and consist of time deposits and investments in money market funds with commercial banks and financial institutions. As of December 31, 2021, cash and cash equivalents included cash on deposit at commercial banks and a money market fund that invests in U.S. Government securities.

Marketable Securities

Investments consist of marketable securities with original maturities greater than 90 days. The Company has classified its investments with maturities beyond one year as short-term, based on their highly liquid nature and because such marketable securities represent the investment of cash that is available for current operations. The Company considers its investment portfolio of marketable securities to be available-for-sale. Accordingly, these investments are recorded at fair value (level 2). Unrealized gains and losses are reported as the accumulated other comprehensive items in stockholders' equity. Amortization and accretion of premiums and discounts are recorded in other income (expense). Realized gains or losses on debt securities are included in interest income or interest expense, respectively. If any adjustment to fair value reflects a decline in value of the investment, the Company considers all available evidence to evaluate the extent to which the decline is other than temporary and, if so, marks the investment to market on the Company's statement of operations and comprehensive loss.

Deferred Offering Costs

The Company capitalizes as prepaid expenses certain legal, professional accounting and other third-party fees that are directly associated with preferred stock or common stock financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs are recorded as a reduction of additional paid-in capital generated as a result of the offering.

Concentrations of Credit Risk and Off-Balance Sheet Risk

The Company maintains its cash in bank deposit and checking accounts that at times exceed insured limits. The Company has not experienced any losses in such accounts and believes it is not exposed to any significant credit risk.

Property and Equipment

Property and equipment are recorded at cost and depreciated or amortized over the estimated useful lives of the assets. Repairs or maintenance costs are expensed as incurred. Depreciation is computed using the straight-line method over the following estimated useful lives:

Office equipment and furniture	3—7 years
Research equipment	1—7 years
Capital lease	Lesser of the asset life or lease term

Fair Value of Financial Instruments

US GAAP requires disclosure of fair value information about financial instruments, whether or not recognized in the balance sheet, for which it is practicable to estimate that value. The framework provides a fair value hierarchy that prioritizes the inputs for the valuation techniques. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements) and minimizes the use of unobservable inputs. The most observable inputs are used, when available. The three levels of the fair value hierarchy are described as follows:

Level 1—Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Company has the ability to access.

Level 2—Inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability; and inputs that are derived from, or corroborated by, observable market data by correlation or other means.

Level 3—Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

Classification of Convertible Preferred Stock

The Company classifies convertible preferred stock outside of stockholders' deficit on its balance sheets as the requirements of triggering a deemed liquidation event are not within the Company's control. In the event of a deemed liquidation event, the proceeds from the event are distributed in accordance with liquidation preferences (Note 8). The Company adjusts the carrying value of the convertible preferred stock to their redemption values when it becomes probable a redemption event will occur.

Research and Development

Research and development costs are expensed in the period incurred. Research and development costs include payroll and personnel expense; consulting costs; external contract research and development costs; raw materials and allocated overhead such as depreciation and amortization, rent and utilities. Advance payments for goods and services to be used in future research and development activities are recorded as prepaid expenses and are expensed over the service period as the services are provided or when the goods are consumed.

Clinical trial costs are a component of research and development expenses. The Company estimates expenses incurred for clinical trials that are in process based on services performed under contractual agreements with clinical research organizations and actual clinical investigators. Included in the estimates are (1) the fee per patient enrolled as specified in the clinical trial contract with each institution participating in the clinical trial and (2) progressive data on patient enrollments obtained from participating clinical trial sites and the actual services performed. Changes in clinical trial assumptions, such as the length of time estimated to enroll all patients, rate of screening failures, patient drop-out rates, number and nature of adverse event reports, and the total number of patients enrolled can impact the average and expected cost per patient and the overall cost of the clinical trial. The Company monitors the progress of the trials and their related activities and adjusts, when applicable, the accruals accordingly. Adjustments to accruals are charged to expense in the period in which the facts that give rise to the adjustment become known. In the event of early termination of a clinical trial or site, the Company would accrue an amount based on estimates of the remaining noncancellable obligations associated with winding down the clinical trial or cancelation of a participating site.

Stock-Based Compensation

The Company accounts for all stock-based compensation, including stock options and warrants, at fair value and recognizes stock-based compensation expense for those equity awards, net of actual forfeitures, over the requisite service period, which is generally the vesting period of the respective award.

The fair value of the Company's stock options and warrants on the date of grant, prior to February 3, 2021 was determined by the Company with the assistance of a third-party valuation specialist in accordance with the guidance in the American Institute of Certified Public Accountants Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, as the Company's common stock was not actively traded.

Income Taxes

Income taxes are accounted for using the asset and liability method of accounting for taxes. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases, including operating loss carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the year in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

A valuation allowance is established when necessary to reduce net deferred tax assets to the amount expected to be realized through future operations. Income tax expense consists of taxes payable for the current period and the net change during the period in deferred tax assets and liabilities.

The Company evaluates its uncertain tax positions based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is more likely than not to be realized. Potential interest and penalties associated with any uncertain tax positions are recorded as a component of income tax expense. Management has evaluated the Company's tax position and concluded that the Company has taken no uncertain tax positions that would require adjustment or disclosure in the consolidated financial statements.

Net Loss Per Share

The Company follows the two-class method when computing net loss per share as the Company has issued shares that meet the definition of participating securities. The two-class method determines net 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 income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed.

Basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding for the period. Diluted net loss attributable to common stockholders is computed by adjusting net loss attributable to common stockholders to reallocate undistributed earnings based on the potential impact of dilutive securities. Diluted loss per share attributable to common stockholders is computed by dividing the diluted net loss attributable to common stockholders by the weighted average number of common shares outstanding for the period, including potential dilutive common stock. For purpose of this calculation, outstanding stock options, stock warrants and convertible preferred stock are considered potential dilutive common stock and are excluded from the computation of net loss per share as their effect is anti-dilutive.

The Company's convertible preferred stock contractually entitles the holders of such shares to participate in dividends but does not contractually require the holders of such shares to participate in losses of the Company. Accordingly, in periods in which the Company reports a net loss, such losses are not allocated to such participating securities. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders, since dilutive common shares are not assumed to be outstanding if their effect is anti-dilutive. The Company reported a net loss attributable to common stockholders for the years ended December 31, 2021 and 2020.

Reclassifications

Certain reclassifications have been made to the presentation of amounts in our Consolidated Balance Sheet as of December 31, 2020 to conform to the current year presentation. Specifically, prepaid expenses were reclassified from other current assets, as well as operating lease liability from other non-current liabilities, and presented separately on our Consolidated Balance Sheets. Changes in prepaid expenses were reclassified from changes in other assets and presented separately on our Consolidated Statements of Cash Flows.

Segments

Operating segments are defined as components of an entity for which separate financial information is available and that is regularly reviewed by the chief operating decision maker (“CODM”), in deciding how to allocate resources to an individual segment and in assessing performance. The Company’s CODM is its chief executive officer. The Company has determined it operates in one segment.

Leases

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) ("ASU 2016-02"). The provisions of ASU 2016-02 set out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e. lessees and lessors). The new standard requires lessee apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use ("ROU") asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for in a similar manner as under existing guidance for operating leases today. ASU 2016-02 supersedes the previous lease standard, ASC Topic 840 ("ASC 840"), Leases. In July 2018, the FASB issued ASU 2018-10, Codification Improvements to Topic 842 (Leases), and ASU 2018-11, Leases (Topic 842), Targeted Improvements ("ASU 2018-11"), which provide (i) narrow amendments to clarify how to apply certain aspects of the new lease standard, (ii) entities with an additional transition method to adopt the new standard, and (ii) lessors with a practical expedient for separating components of a contract. ASU 2018-11 specifically permits an entity to elect an additional transition method to the existing modified retrospective transition requirements. Under the new transition method, an entity could adopt the provisions of ASU No. 2016-02 by recognizing a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption without adjustment to the financial statements for periods prior to adoption. Consequently, an entity's reporting for the comparative periods presented in the financial statements in which it adopts the new leases standard will continue to be in accordance with the previous lease guidance in ASC 840. ASU No. 2018-11 also allows a practical expedient that permits lessors to not separate non-lease components from the associated lease component if certain conditions are present. The Company is adopting ASU 2016-02 using the modified retrospective method, upon its effective date of January 1, 2022. The Company is electing the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allows the Company to carryforward the historical lease classification for all leases in effect at adoption. The Company will make an accounting policy election to keep leases with an initial term of 12 months or less off of the consolidated balance sheet and will recognize those lease payments in the consolidated statements of operations on a straight-line basis over the lease term. The most significant impact of the adoption of ASU 2016-02 to the Company relates to its accounting for leases currently classified as operating leases. The Company estimates that the approximate amount of additional liabilities and ROU assets that will be recognized in its consolidated balance sheet upon adoption will be between $5.5 million to $6.5 million.

Recently Issued Accounting Standards

The Company is an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and may take advantage of reduced reporting requirements that are otherwise applicable to public companies. Section 107 of the JOBS Act exempts emerging growth companies from being required to comply with new or revised financial accounting standards until private companies are required to comply with those standards. The Company has elected to use the extended transition period for complying with new or revised accounting standards unless otherwise state.

The Company will remain an “emerging growth company” until the earliest of (i) December 31, 2026, (ii) the last day of the fiscal year in which it has total annual gross revenues of $1.07 billion or more, (iii) the date on which it has issued more than $1.0 billion in nonconvertible debt during the previous three years or (iv) the date on which it is deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission (“SEC”), which generally is when it has more than $700 million in market value of its stock held by non-affiliates, has been a public company for at least 12 months and have filed one annual report on Form 10-K.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments-Credit Losses: Measurement of Credit Losses on Financial Instruments (Topic 326)*. ASU No. 2016-13 requires measurement and recognition of expected credit losses for financial assets. In April 2019, the FASB issued clarification to ASU No. 2016-13 within ASU No. 2019-04, *Codification Improvements to Topic 326, Financial Instruments-Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments*. This update is effective for entities other than public business entities, including emerging growth companies that elected to defer compliance with new or revised financial accounting standards until a company that is not an issuer is required to comply with such standards, for annual reporting periods beginning after December 15, 2022.The Company is currently evaluating the impact that ASU No. 2016-13 will have on the consolidated financial statements and related disclosures.

In December 2019, the FASB issued ASU No. 2019-12, *Simplifying the Accounting for Income Taxes*. ASU No. 2019-12 eliminates certain exceptions related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. It also clarifies and simplifies other aspects of the accounting for income taxes. This update is effective for entities other than public business entities, including emerging growth companies that elected to defer compliance with new or revised financial accounting standards until a company that is not an issuer is required to comply with such standards, for annual reporting periods beginning after December 15, 2021, and interim periods within annual periods beginning after December 15, 2022. The Company adopted ASU No. 2019-12 on January 1, 2020 and it did not have a material effect on the condensed consolidated financial statements and related disclosures.

3. MARKETABLE SECURITIES

Marketable securities consist of the following as of December 31, 2021 (in thousands):

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Commercial paper	$ 37,982	$ -	$ (16)	$ 37,966
Corporate bonds	95,813	-	(251)	95,562
U.S. Government agencies	7,000	-	(66)	6,934
Total	$ 140,795	$ -	$ (333)	$ 140,462

As of December 31, 2021, all marketable securities held by the Company had remaining contractual maturities of one year or less, except for corporate bonds and U.S. government agencies securities with a fair value of $68.1 million that had maturities of one to three years.

As of December 31, 2021, the marketable securities in a loss position had a maturity of less than one year, except for corporate bonds and U.S. government agencies securities with a fair value of $68.1 million, that had maturities of one to three years.

As of December 31, 2021, $46 thousand and $287 thousand of unrealized losses are associated with marketable securities with contractual maturities of one year or less and more than one year, respectively.

There were no impairments of the Company’s assets measured and carried at fair value during the twelve months ended December 31, 2021.

4. PROPERTY AND EQUIPMENT, NET

Property and equipment, net consist of the following (in thousands):

	December 31, 2021	December 31, 2020
Research equipment	$ 4,974	$ 1,767
Office equipment and furniture	606	94
Leaseholder improvement	253	-
Total property and equipment	5,833	1,861
Less accumulated depreciation and amortization	(1,189)	(595)
Property and equipment, net	$ 4,644	$ 1,266

Depreciation and amortization expense for the years ended December 31, 2021 and 2020 was $685 thousand and $209 thousand, respectively.

5. DEBT

Debt consists of the following (in thousands):

	December 31, 2021	December 31, 2020
PPP Loan	$ —	$ 567
Total debt	—	567
Less current portion	—	—
Noncurrent debt	$ —	$ 567

PPP loan

In May 2020, the Company received $567 thousand in loan funding from the Paycheck Protection Program ("PPP") pursuant to the Coronavirus Aid, Relief, and Economic Security Act, as amended by the Flexibility Act, and administered by the Small Business Administration. The unsecured loan (the "PPP Loan") was with Silicon Valley Bank.

Under the terms of the PPP Loan, interest accrued on the outstanding principal at a rate of 1.0% per annum. On August 6, 2021, the Small Business Administration approved the forgiveness for the full amount of the PPP Loan, which included principal of $567 thousand, plus interest. The Company recognized a gain on debt extinguishment in other income (expense) on the Consolidated Statement of Operations and Comprehensive Loss for the year ended December 31, 2021.

Convertible debt

The Company had historically issued various convertible debt instruments to third parties and related parties during 2019 and preceding periods. All of these convertible debt instruments were redeemed into shares of Series AA convertible preferred stock during 2020, primarily related to the Company's recapitalization disclosed in Note 8 of these financial statements.

During the period from April 2019 through September 2019, the Company issued $2,345 thousand of convertible promissory notes ("2019 Notes"). Interest on the principal amount outstanding is fixed at 10% with a one-year maturity date, if not previously converted to shares of the Company's equity securities.

The 2019 Notes include detachable warrants to purchase 7,313 of the Company's common stock at exercise prices between $64.80 and $122.88 per share. The detachable warrants have an expiration date of ten years from the issuance date, or fiscal year 2029. The estimated fair value of the detachable warrants was determined using the Black-Scholes option-pricing model (Level 3 hierarchy) and totaled $51 thousand upon issuance. The fair value of the detachable warrants was treated as a discount on the 2019 Notes and amortized as incremental interest expense using the effective interest method over the life of the 2019 Notes.

In September and October 2019, the Company issued an aggregate of $1,500 thousand in secured convertible promissory notes ("2019 Secured Notes") with a repayment premium of 150% of the principal amount. Interest on the principal amount outstanding was fixed at 10% with a maturity date of December 31, 2020 to a related party. The repayment premium of $2,250 thousand was being amortized as incremental interest expense using the effective interest method over the life of the 2019 Secured Notes prior to the January 2020 redemption.

The automatic conversion features of the 2019 Secured Notes were determined by management to be embedded derivative instruments. The embedded derivative instruments are initially measured at fair value and classified as a liability on the balance sheet, within the same line item as the 2019 Secured Notes. Subsequent changes in fair value are in net loss on the consolidated statement of operations as fair value adjustments on embedded debt derivatives expense. To determine the fair value of the aggregated automatic conversion features, management utilized a "with-and-without" in a modified convertible bond model, incorporating the automatic conversion features. Key assumptions utilized in determining the initial fair value were: (a) 5% to 10% probability of settlement at the contractual maturity date; (b) 25% probability of settlement on a change of control or upon a qualified initial public offering in 9 to 10 months of issuance; and (c) 65% probability of settlement on a qualified financing in 6 months of issuance. Based upon the modified convertible bond model utilized by management, the fair value of the automatic

conversion features was determined to be $940 thousand upon issuance of the 2019 Secured Notes and was being amortized as incremental interest expense using the effective interest method over the life of the 2019 Secured Notes.

In November 2019, the Company issued a $1,000 thousand bridge convertible promissory note (“2019 Bridge Note”). Interest on the principal amount is fixed at 7% and commences 60 days after the issuance date with a maturity date of December 31, 2020.

In April 2019, the Company issued a $1,000 thousand convertible promissory note (“2019 Special Note”). Interest on the principal amount outstanding is fixed at 10% with a one-year maturity date, if not previously converted to shares of the Company’s equity securities.

The 2019 Special Note contains a feature requiring amendment of the original instrument if the Company issues additional instruments with preferable terms relative to those contained in the 2019 Special Note. In September 2019, the original agreement was amended requiring a 150% repayment premium in addition to the original 10% interest rate based upon the Company’s issuance of the 2019 Secured Notes. The repayment premium of $1,500 thousand was being amortized as incremental interest expense using the effective interest method over the life of the 2019 Special Note.

The automatic conversion features of the 2019 Special Note were determined by management to be embedded derivative instruments. The embedded derivative instruments are initially measured at fair value and classified as a liability on the balance sheet, within the same line item as the 2019 Special Note. Subsequent changes in fair value are in net loss as fair value adjustments on embedded debt derivatives expense. To determine the fair value of the aggregated automatic conversion features, management utilized a “with-and-without” in a modified convertible bond model, incorporating the automatic conversion features. Key assumptions utilized in determining the initial fair value were: (a) 10% probability of settlement at the contractual maturity date; (b) 25% probability of settlement on a change of control or upon a qualified initial public offering in 10 months of issuance; and (c) 65% probability of settlement on a qualified financing in 6 months of issuance. Based upon the modified convertible bond model utilized by management, the fair value of the automatic conversion features was determined to be $663 thousand upon issuance of the 2019 Special Note and was being amortized as incremental interest expense using the effective interest method over the life of the 2019 Special Note.

The 2019 Special Note includes a detachable warrant allowing the purchase of 3,886 of the Company’s common stock at an exercise price of $64.32 per share. The detachable warrant has an expiration date of ten years from the issuance date, or fiscal year 2029. The fair value of the detachable warrant was treated as a discount on the 2019 Special Note and amortized as incremental interest expense using the effective interest method over the life of the 2019 Special Note. The estimated fair value of the detachable warrant was determined using the Black-Scholes option-pricing model (Level 3 hierarchy) and totaled $74 thousand upon issuance.

On March 27, 2020, the Company consented to the exchange of the 2019 Special Note where the original holder of the 2019 Special Note sold it to a current equity owner of the Company. The detachable warrant issued in conjunction with the 2019 Special Note for 3,886 common stock was not included in the exchange and was subsequently canceled.

The 2019 Special Note matured in April 2020 and stopped accruing interest at that time. Management determined the fair value of the conversion features within the 2019 Special Note was zero upon maturity since the conversion features provided no incremental value to the holder beyond the contractually obligated amount. In November 2020, the 2019 Special Note, repayment premium and accrued interest was redeemed into 31,591,824 shares of Series AA convertible preferred stock. The delay from maturity in April 2020 to redemption in November 2020 was administrative in nature, as the holder is a principle owner related party.

The Company issued to a related party $2,250 thousand and $750 thousand 2018 convertible promissory notes (“2018 Bridge Notes”) in 2019 and 2018, respectively, to fund the Company’s operations. Interest on the principal amount outstanding is fixed at 10%.

The 2018 Bridge Notes include detachable warrants to purchase 11,718 and 3,906 shares issued in 2019 and 2018, respectively, of the Company’s common stock at an exercise price of $122.88 per share. The detachable warrants expire on December 19, 2028. The estimated fair value of the detachable warrants was determined using the Black-Scholes option-pricing

model (Level 3 hierarchy), treated as a discount on the 2018 Bridge Notes and amortized as incremental interest expense using the effective interest method over the life of the 2018 Bridge Notes.

The Company issued $4,050 thousand convertible promissory notes in 2017 (“2017 Notes”) in exchange for cash of the same amount. Interest on the principal amount outstanding is fixed at 8%.

6. FAIR VALUE MEASUREMENTS

The Company did not have any financial liabilities measured at fair value on a recurring basis as of December 31, 2021 and 2020, but certain embedded debt derivates were settled during the year ended December 31, 2020.

The following tables present information about the Company’s financial assets measured at fair value on a recurring basis and indicate the level of the fair value hierarchy used to determine such fair values (in thousands):

	Fair Value Measurements as of December 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents				
Money market funds	$ 5,404	$ -	$ -	$ 5,404
Investments:				
Commercial paper	-	37,966	-	37,966
Corporate bonds	-	95,562	-	95,562
U.S. Government agencies	-	6,934	-	6,934
Total	$ 5,404	$ 140,462	$ -	$ 145,866

When developing fair value estimates, the Company maximizes the use of observable inputs and minimizes the use of unobservable inputs. When available, the Company uses quoted market prices to measure fair value. The valuation technique used to measure fair value for the Company's Level 1 and Level 2 assets is a market approach, using prices and other relevant information generated by market transactions involving identical or comparable assets. If market prices are not available, the fair value measurement is based on models that use primarily market-based parameters including yield curves, volatilities, credit ratings and currency rates. In certain cases where market rate assumptions are not available, the Company is required to make judgments about assumptions market participants would use to estimate the fair value of a financial instrument.

The Company’s embedded debt derivatives during 2020 are measured at fair value using a probability-weighted discounted cash flow valuation methodology. The determination of the fair value of embedded debt derivatives includes inputs not observable in the market and as such, represents a Level 3 measurement. The methodology utilized requires inputs based on certain subjective assumptions, including probabilities of debt settlement scenarios and a discount rate. This approach results in the classification of these embedded debt derivatives as Level 3 of the fair value hierarchy

The assumptions utilized to value the embedded debt derivatives during the year ended December 31, 2020 prior to the settlement of such instruments included the actual outcome of the underling debt host contract, whether it was settled on a qualified financing prior to the contractual maturity date or settlement at the contractual maturity date. For the year ended December 31, 2020, the Company recognized $1.0 million of income in the condensed consolidated statement of operations as other income—fair value adjustments on embedded debt derivatives. The fair value of the embedded debt derivate was zero as of December 31, 2020

The following table provides a reconciliation of embedded debt derivatives measured at fair value on a recurring basis using significant unobservable inputs (Level 3) (in thousands):

	Amount
Balance at December 31, 2019	$ 3,920
Change in fair value	(995)
Settlement	(2,925)
Balance at December 31, 2020	$ —

There were no transfers among Level 1, Level 2 or Level 3 categories in the years ended December 31, 2021 and 2020.

7. COMMITMENTS AND CONTINGENCIES

Operating Lease

As of December 31, 2021, the Company leases an office facilities and other equipment under operating leases, which expire at various dates through 2027. Lease expense for the years ended December 31, 2021 and 2020 was $1,488 thousand and $1,439 thousand, respectively.

The following table presents the future annual minimum payments required under noncancellable operating leases at December 31, (in thousands):

2022	1,585
2023	1,606
2024	1,641
2025	1,689
2026	1,413
2027	59
Total operating lease obligations	$ 7,993

Capital Lease

The Company leases research equipment under a capital finance lease. The capital lease asset is classified within property and equipment, net within the Company's condensed consolidated balance sheets.

In 2021, the Company entered into a lease agreement with a third party company related to various research equipment and furniture, which included the Company selling specific equipment for $293 thousand and leasing it back for a four year period. The associated lease facility includes up to $5 million for the purchase of equipment on an as needed basis. As of December 31, 2021, the Company has $3.1 million available for purchases under this arrangement. The Company has an option to purchase the equipment at fair market value, not to exceed 15% of the original equipment cost, or to renew the lease for an additional one- or two-year period at a mutually agreed upon rate.

In 2021, the Company entered into a lease for various research equipment. The terms of the four-year lease specify a monthly payment of $13 thousand, with the option to purchase the equipment for fair market value, to be determined by the lessor, at the end of the lease.

The following table presents the future annual minimum payments under the capitalized lease, together with the present value of net minimum lease payments at December 31, (in thousands):

2022	$ 699
2023	674
2024	674
2025	553
2026	47
Total capital lease obligations	2,647
Less amount representing interest	(293)
Present value of minimum capital lease obligations	$ 2,354

License Agreements

In the normal course of business, the Company enters into licensing agreements with various parties to obtain the right to make, use, and sell licensed products currently in development.

Litigation

The Company records estimated losses from loss contingencies, such as a loss arising from a litigation, when it determines that it is probable a liability has been incurred and the amount of loss can be reasonably estimated. Litigation is subject to many factors that are difficult to predict so that there can be no assurance, in the event of a material unfavorable result in one or more claims, the Company will not incur material costs.

During 2017, the Company became actively involved in a matter pending in the Ontario (Canada) Superior Court of Justice which names, among multiple other defendants, the Company and two former officers of the Company. The claims pending in this matter allege breach of contract by the Company and seek declaratory and other relief, including monetary damages from the Company, and the individual defendants, including the Company's former officers. The claims by such plaintiffs were originally made in a lawsuit filed in Ontario during October 2011, but was not pursued by such plaintiffs in any material manner until 2017. The Company believes that there is no merit to the claims alleged against the Company and its former officers, including no alleged breach of contract by the Company, and intends to vigorously defend against the claims pertaining to the Company and its former officers. At the present stage of the suit, management believes the outcome in this matter is not likely to have any material impact on the Company's results, cash flows, or financial position.

Coronavirus pandemic

On January 30, 2020, the WHO announced a global health emergency because of a new strain of coronavirus originating in Wuhan, China and the risks to the international community as the virus spreads globally beyond its point of origin. In March 2020, the WHO classified the COVID-19 outbreak as a pandemic, based on the rapid increase in exposure globally. The full impact of the COVID-19 pandemic continues to evolve as of the date of these financial statements. As such, it is uncertain as to the full magnitude that the pandemic will have on the Company's financial condition, liquidity, and future results of operations. Management is actively monitoring the global situation on its financial condition, liquidity, operations, suppliers, industry, and workforce. Given the daily evolution of the COVID-19 pandemic and the global responses to curb its spread, the Company is not able to estimate the effects of the COVID-19 pandemic on its results of operations, financial condition, or liquidity. Although the Company cannot estimate the length or gravity of the impact of the COVID-19 pandemic at this time, if the pandemic continues, it may have a material adverse effect on the Company's results of future operations, financial position, and liquidity during 2022 and beyond.

8. EQUITY

Each share of common stock entitles the holder to one vote on all matters submitted to a vote of the Company's stockholders. Common stockholders are not entitled to receive dividends, unless declared by the board of directors.

Initial Public Offering

In February 2021, the Company completed its initial public offering in which the Company issued and sold 8,030,295 shares of its common stock, including 1,030,243 shares pursuant to the partial exercise of the underwriters' option to purchase additional shares, at a public offering price of $19.00 per share, for aggregate gross proceeds of $152.6 million. The Company received approximately $138.5 million in net proceeds after deducting underwriting discounts and offering expenses payable by the Company.

Upon closing of the initial public offering on February 8, 2021, all of the Company's outstanding preferred stock converted into an aggregate of 19,034,069 shares of common stock.

On February 8, 2021, in connection with the initial public offering, the Company filed an Amended and Restated Certificate of Incorporation (the "Amended Certificate") with the Secretary of State of the State of Delaware. The Amended Certificate, among other things: (i) authorized 250,000,000 shares of common stock; (ii) eliminated all references to the previously existing series of preferred stock; and (iii) authorized 10,000,000 shares of undesignated preferred stock that may be issued from time to time by the Company's board of directors in one or more series.

2020 Recapitalization

In January 2020, the Company entered into an agreement with a third party, who is the holder of the 2019 Bridge Note, and the majority of the Company's convertible preferred stock series A through F holders ("Majority Legacy Preferred Stockholders") that provided a new source of capital and restructured the Company's existing capital structure (the "Recapitalization"). The third party invested $4 million in exchange for 48,700,311 shares of Series AA convertible preferred stock and a warrant to purchase 634,118 shares of the Company's common stock at an exercise price of $0.01 per share. The warrant was subsequently exercised in January 2020. Additionally, the agreement with the Majority Legacy Preferred Stockholders caused all other holders of convertible preferred stock series A through F holders ("Minority Legacy Preferred Stockholders") and the Majority Legacy Preferred Stockholders to receive 30,140,432 shares of the Company's common stock ("Newly Issued Common Stock") in exchange for their holdings of the Company's convertible preferred stock series A through F, including cumulative and unpaid dividends, as part of the Recapitalization.

The Majority Legacy Preferred Stockholders agreed to invest additional capital into the Company in exchange for Series AA convertible preferred stock. Minority Legacy Preferred Stockholders were provided the opportunity to invest additional capital into the Company in exchange for Series AA convertible preferred stock. All Majority and Minority Legacy Preferred Stockholders who invested additional capital into the Company during January 2020 were allowed to convert their Newly Issued Common Stock into

Series AA convertible preferred stock at a conversion rate based upon their incremental and historical investment into the Company. The Majority and Minority Legacy Preferred Stockholders invested $6.6 million in exchange for 79,954,952 shares of Series AA convertible preferred stock. The Majority and Minority Legacy Preferred Stockholders also exchanged 148,732 shares of Newly Issued Common Stock for 210,310,025 shares of Series AA convertible preferred stock under the Recapitalization agreement.

The Company's issuance of Series AA convertible preferred stock triggered the redemption of the 2019 Notes, 2019 Secured Notes, 2019 Bridge Note, 2018 Bridge Notes, and 2017 Notes, as well as accrued and unpaid interest and repayment premium on the 2019 Secured Notes, into shares of Series AA convertible preferred stock. These debt instruments were redeemed for 188,173,050 shares of the Series AA convertible preferred stock, which resulted in a gain on debt extinguishment of $45 thousand.

The Company amended and restated its certificate of incorporation as part of the Recapitalization authorizing a total number of common stock and preferred stock of 1,230,000,000 and 870,211,737 respectively, with a par value of $0.0001 for each share.

Secondary Series AA Convertible Preferred Stock Issuance

From July to September 2020, the Company issued and sold 103,453,773 shares of Series AA convertible preferred stock at $0.082135 per share in exchange for $8.5 million in gross proceeds. These instruments were converted into common stock as part of the initial public offering.

Series BB Convertible Preferred Stock Issuance

In January 2021, the Company issued and sold 113,275,902 shares of Series BB convertible preferred stock at $0.207383 per share in exchange for $23.5 million in gross proceeds. In December 2020, the Company issued and sold 52,680,306 shares of Series BB convertible preferred stock at $0.207383 per share in exchange for $10.9 million in gross proceeds. These instruments were converted into common stock as part of the initial public offering.

Series A, B, C, D, E and F Convertible Preferred Stock

All Series A, B, C, D, E, and F convertible preferred stock were converted into common stock as part of the January Recapitalization discussed above. There were no other transactions involving Series A, B, C, D, E, and F convertible preferred stock during the year ended December 31, 2020.

Dividends were cumulative and accrue annually on all outstanding Series A, B, C, D, E and F of preferred stock at 8% per annum.

Cumulative and unpaid dividends were converted into shares of common stock at the same rates as the underlying convertible preferred stock as part of the January Recapitalization disclosed above.

Common Stock Warrants

The following is a summary of the common stock warrant activity related to common stock warrants issued in conjunction with equity and debt fundraising events for the years ended December 31, 2021 and 2020:

	Number of Common Stock Warrants	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2019	26,823	$ 102.74	9.17	$ —
Granted	1,099,536	$ 1.40		
Exercised	(710,211)	$ 0.01		
Expired	(3,886)	$ 64.32		
Outstanding at December 31, 2020	412,262	$ 9.60	6.71	$ 1,380
Granted	1,648,707	$ 0.01		
Exercised	(1,648,707)	$ (0.01)		
Expired	—	$ —		
Outstanding at December 31, 2021	412,262	$ 9.81	5.71	$ 723

9. STOCK-BASED COMPENSATION

2021 Equity Incentive Plan

The 2021 Equity Incentive Plan (the "2021 Plan") was approved by the board of directors on January 27, 2021, and the Company's stockholders on January 28, 2021 and became effective on the execution of the underwriting agreement related to the initial public offering. The 2021 Plan, which superseded the Company's previous equity incentive plan, provides for the grant of incentive stock options to employees, including employees of any parent or subsidiary corporations, and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of stock awards to employees, directors, and consultants, including employees and consultants of the Company's affiliates. The number of shares initially reserved for issuance under the 2021 Plan was 5,000,000, which began automatically increasing on January 1 of each calendar year, starting on January 1, 2022 through January 1, 2031, in an amount equal to 4.0% of the total number of shares of the Company's capital stock outstanding on the last day of the calendar month before the date of each automatic increase, or a lesser number of shares determined by the board of directors. There were 1,964,702 shares reserved for issuance pursuant to the 2021 Plan as of December 31, 2021, which increased to 3,189,063 shares as of January 1, 2022.

2021 Employee Stock Purchase Plan

The 2021 Employee Stock Purchase Plan (the "2021 ESPP") was approved by the Company's board of directors on January 27, 2021 and became effective on the closing the IPO. A total of 333,333 shares of common stock were initially reserved for this issuance under the 2021 ESPP, which will automatically increase on January 1 of each calendar year, beginning on January 1, 2022 through January 1, 2031, by an amount equal to 1.0% of the total shares of common stock outstanding on December 31st of the preceding calendar year. The purchase price of the shares under the 2021 ESPP are at 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the purchase date. As of December 31, 2021, the Company had issued 11,700 shares under the 2021 ESPP. As of December 31, 2021, 321,633 shares were available to be issued under the 2021 ESPP and increased to 627,723 shares on January 1, 2022. The Company recognized share-based compensation expense of $14 thousand related to the ESPP through December 31, 2021.

Stock Options

The following is a summary of the stock option award activity during the years ended December 31, 2021 and 2020:

	Number of Stock Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2019	77,604	$ 114.11	8.12	$ —
Granted	1,899,507	$ 2.02		
Exercised	(16,666)	$ (1.23)		
Forfeited	(13,322)	$ (119.38)		
Expired	—	$ —		
Outstanding at December 31, 2020	1,947,123	$ 5.70	9.56	$ 10,284
Granted	1,741,159	$ 15.93		
Exercised	(8,834)	$ (1.23)		
Forfeited	(652,984)	$ (9.18)		
Expired	—	$ —		
Outstanding at December 31, 2021	3,026,464	$ 10.84	8.51	$ 6,403
Exercisable at December 31, 2021	872,570	$ 9.82	7.44	$ 3,352
Options expected to vest at December 31, 2021	2,153,894	$ 11.25	9.04	$ 3,051

The aggregate intrinsic value of stock options exercised in the year ended December 31, 2021 and 2020 was $0.1 million. The Company uses the Black-Scholes option-pricing model to estimate the fair value of the stock options on the grant dates at a weighted average grant date fair value of $12.12 and $3.09 for stock options granted during the years ended December 31, 2021 and 2020, respectively.

The total fair value of options vested during the years ended December 31, 2021 and 2020 was $2.8 million and $1.1 million, respectively.

At December 31, 2021, there was approximately $16.0 million of unrecognized stock-based compensation expense associated with the stock options, which is expected to be recognized over a weighted-average period of 2.94 years.

At December 31, 2020, there was approximately $5.9 million of unrecognized stock-based compensation expense associated with the stock options, which is expected to be recognized over a weighted-average period of 2.99 years.

Common Stock Warrants

The following is a summary of the common stock warrant activity during the years ended December 31, 2021 and 2020:

	Number of Common Stock Warrants	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2019	57,420	$ 7.95	4.83	$ —
Granted	—	$ —		
Exercised	—	$ —		
Expired	(208)	$ (96.00)		
Outstanding and exercisable at December 31, 2020	57,212	$ 7.62	3.64	$ 98
Granted	—	$ —		
Exercised	—	$ —		
Expired	(208)	$ (192.00)		
Outstanding and exercisable at December 31, 2021	57,004	$ 6.94	2.91	$ 2.26

As of December 31, 2021, there was no unrecognized stock-based compensation expense associated with the common stock warrants.

During 2021 and 2020, the Company utilized the Black-Scholes option-pricing model for estimating the fair value of the stock options and common stock warrants granted. The following table presents the assumptions and the Company's methodology for developing each of the assumptions used:

	Years Ended December 31,	
	2021	2020
Volatility	89%-98%	90%-100%
Expected life (years)	5.5–6.1	0.5–6.1
Risk-free interest rate	0.4%–1.4%	0.1%–0.7%
Dividend rate	—%	—%

- Volatility—The Company estimates the expected volatility of its common stock at the date of grant based on the historical volatility of comparable public companies over the expected term.
- Expected life—The expected life is estimated as the contractual term.
- Risk-free interest rate—The risk-free rate for periods within the estimated life of the stock award is based on the U.S. Treasury yield curve in effect at the time of grant.
- Dividend rate—The assumed dividend yield is based upon the Company's expectation of not paying dividends in the foreseeable future.

Stock-based compensation expense was recorded in the following line items in the consolidated statements of operations for the years ended December 31, 2021 and 2020 (in thousands):

	Years Ended December 31,	
	2021	2020
Research and development	$ 2,238	$ 555
General and administrative	3,419	937
Total stock-based compensation expense	$ 5,657	$ 1,492

10. EMPLOYEE RETIREMENT PLAN

The Company maintains a defined contribution 401(k) profit-sharing plan (the "Plan") for all employees. Under the Plan, participants may make voluntary contributions up to the maximum amount allowable by law. The Plan is based on employees' salary deferral, and the Company matches employees' contributions up to 4% of the employees' base salary. Employees are 100% vested in the Company's match contributions. During the years ended December 31, 2021 and 2020, the Company's matching contributions were $248 thousand and $116 thousand, respectively.

11. RELATED-PARTY TRANSACTIONS

Service Agreement

During 2020, the Company entered into a service agreement with Hope Farms at Disco Bay LLC("Hope Farms") to provide animal vaccination testing and provide samples to the Company. The Company's Chief Research and Development Officer is a co-founder and partial owner of Hope Farms. Further, the CEO of Hope Farms is the spouse of the Company's Chief Research and Development Officer. Expenses booked by the Company relating to this service agreement for the years ended December 31, 2021 and 2020, were $212 thousand and $67 thousand, respectively. $47 thousand was outstanding to Hope Farms as of December 31, 2021 and subsequently paid in 2022.

Consulting Agreement

During 2020, the Company entered into an agreement with a principal owner of the Company to provide consulting services to the Company in exchange for $1,500 thousand. Under the terms of the agreement, the Company recorded expense of $1,125 thousand in 2020, with a $1,500 thousand payment made in January 2021. The contract was completed and the remaining balance of $375 thousand under the agreement was recorded as an expense in January 2021.

12. INCOME TAXES

Income tax expense consists of the following (in thousands):

	Year Ended December 31,	
	2021	2020
Current:		
Federal	$ —	$ —
State	—	—
Current tax provision	—	—
Deferred:		
Federal	(6,598)	(2,097)
State	(1,705)	(430)
Deferred tax benefit	(8,303)	(2,527)
Less change in valuation allowance	8,303	2,527
Total income tax provision	$ —	$ —

The components of the Company's loss before income tax expense in comprised solely of domestic sources. The effective income tax rate for the years ended December 31, 2021 and 2020 is different from the federal statutory income tax rate primarily due

to the change in valuation allowance against deferred tax assets and permanent differences primarily related to equity based compensation. The reconciliation of the federal statutory income tax rate to the Company's effective income tax rate is as follows:

	Year Ended December 31,	
	2021	2020
Federal statutory income tax rate	21.0%	21.0%
State income taxes	4.6	3.6
Non-deductible interest and embedded debt derivative income and expense	—	(1.7)
Non-deductible transactions costs	(0.2)	(1.2)
Other	(0.8)	(0.2)
Equity-based compensation deferred tax asset adjustment	—	(8.7)
Equity-based compensation	(2.0)	(0.2)
Change in valuation allowance	(22.6)	(12.6)
Effective income tax rate	— %	— %

The Company's deferred tax assets consist primarily of its net operating loss, research and development tax credit carryforwards and capitalized research and development expenditures, along with other minor temporary differences. No amounts are being considered as an uncertain tax position or disclosed as an unrecognized tax benefit. The Company has provided a valuation allowance against its total net deferred tax assets because the Company's ability to generate sufficient future taxable income is uncertain.

Significant components of the Company's deferred tax assets and liabilities consist of the following (in thousands):

	December 31,	
	2021	2020
Net operating loss carryforwards	$ 27,107	$ 22,271
Equity-based compensation	1,103	706
Research and development tax credit carryforwards	1,364	1,364
Capitalized R&D expenditures	3,169	—
Other accruals	408	414
Total deferred tax assets	$ 33,151	24,755
Valuation allowance	(33,151)	(24,755)
Net deferred tax assets	$ —	$ —

The Company has incurred annual net operating losses in each year since inception. The Company believes it could be subject to certain limitations on the utilization of these net operating losses pursuant to Internal Revenue Code Section 382. Therefore, the Company has not reflected the benefit of any such net operating loss carryforwards in the financial statements. Due to the Company's history of losses, and lack of other positive evidence, the Company has determined that it is more likely than not that its net deferred tax assets will not be realized, and therefore, the net deferred tax assets are fully offset by a valuation allowance at December 31, 2021 and 2020.

Future realization of the tax benefits of existing temporary differences and net operating loss carryforwards ultimately depends on the existence of sufficient taxable income within the carryforward period. As of December 31, 2021 and 2020, the Company performed an evaluation to determine whether a valuation allowance was needed. The Company considered all available evidence, both positive and negative, which included the results of operations for the current and preceding years. The Company determined that it was not possible to reasonably quantify future taxable income and determined that it is more likely than not that all of the deferred tax assets will not be realized. Accordingly, the Company maintained a full valuation allowance as of December 31, 2021 and 2020.

The utilization of NOLs and tax credit carryforwards to offset future taxable income may be subject to an annual limitation as a result of ownership changes that have occurred previously or may occur in the future. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, ("IRC"), a corporation that undergoes an ownership change may be subject to limitations on its ability to utilize its pre-change NOLs and other tax attributes otherwise available to offset future taxable income and/or tax liability. An ownership change is defined as a cumulative change of 50% or more in the ownership positions of certain stockholders during a rolling three-year period. The Company has not completed a formal study to determine if any ownership changes within the meaning of IRC Section 382 and 383 have occurred as of December 31, 2021. An ownership change would restrict its ability to use its NOLs or tax credit carryforwards and could require the Company to pay federal or state income taxes earlier than would be required if such limitations were not in effect.

The Company's valuation allowance increased during the year by $8,396 thousand for the year ended December 31, 2021 due primarily to the generation of net operating losses and a $93 thousand change recorded to equity.

As of December 31, 2021, the Company has net operating loss carryforwards for federal and state tax reporting purposes of $100,479 thousand and $92,399 thousand, respectively, a portion of which expire beginning in 2022. Net operating loss carryforwards generated after December 31, 2017 for federal tax reporting purposes of $58,541 thousand have an indefinite life. The remaining federal net operating losses are subject to a 20-year carryforward period. As of December 31, 2021, the Company has research and development tax credit carryforwards of approximately $1,364 thousand, which expire beginning in 2034.

The Company evaluates its uncertain tax positions under ASC 740-10, which requires that realization of an uncertain income tax position be recognized in the financial statements. The benefit to be recorded in the financial statements is the amount most likely to be realized assuming a review by tax authorities having all relevant information and applying current conventions. The Company concluded that there are no uncertain tax positions in any of the periods presented.

The Company files tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal and state jurisdictions, where applicable. The earliest tax years that remain subject to examination by jurisdiction is 2018 for both federal and state. However, to the extent the Company utilizes net operating losses from years prior to 2018, the statute remains open to the extent of the net operating losses or other credits are utilized.

13. NET LOSS PER SHARE

Basic and diluted net loss per share attributable to common stockholders is calculated as follows (in thousands except share and per share amounts):

	Years Ended December 31,	
	2021	2020
Net loss	$ (36,794)	$ (20,100)
Cumulative dividends on convertible preferred stock	—	(104)
Net loss attributable to common stockholders	$ (36,794)	$ (20,204)
Net loss per share—basic and diluted	$ (1.33)	$ (12.53)
Weighted-average number of shares used in computing net loss per share—basic and diluted	27,710,686	1,612,140

The following outstanding potentially dilutive securities have been excluded from the calculation of diluted net loss per share, as their effect is anti-dilutive:

	Years Ended December 31,	
	2021	2020
Convertible preferred stock	—	747,683,172
Stock options to purchase common stock	2,649,965	1,947,123
Warrants issued to employees and contractor to purchase common stock	57,004	57,212
Warrants issued related to convertible notes and other equity agreements	412,262	412,262

14. SUBSEQUENT EVENTS

Stock-Based Compensation

On February 15, 2022, the Company granted equity awards for 749,150 shares under the 2021 Plan, consisting of options exercisable for 568,604 shares of common stock and restricted stock units for 180,546 shares of common stock with a grant date fair value of $2.4 million and $0.8 million, respectively.

Exhibit 4.3

DESCRIPTION OF SENSEI BIOTHERAPEUTICS, INC. CAPITAL STOCK

The following description of the common stock of Sensei Biotherapeutics, Inc., or the Company, is a summary and does not purport to be complete. This summary is qualified in its entirety by reference to the provisions of the Delaware General Corporation Law, or the DGCL, and the complete text of the Company's amended and restated certificate of incorporation, or the certificate of incorporation, and amended and restated bylaws or the bylaws, which are incorporated by reference as Exhibits 3.1 and 3.2, respectively of the Company's Annual Report on Form 10-K to which this description is also an exhibit. The Company encourages you to read that law and those documents carefully.

General

Under the certificate of incorporation, our authorized capital stock consists of 250,000,000 shares of common stock, $0.0001 par value per share, and 10,000,000 shares of preferred stock, $0.0001 par value per share, all of which shares of preferred stock are undesignated. Our board of directors may establish the rights and preferences of the preferred stock from time to time.

Common Stock

Voting Rights

Holders of our common stock are entitled to one vote per share of common stock. Our common stock does not have cumulative voting rights. Accordingly, the holders of a majority of the outstanding shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they so choose, other than any directors that holders of any preferred stock we may issue may be entitled to elect.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive ratably those dividends, if any, as may be declared by the board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, the holders of our common stock will be entitled to share ratably in the assets legally available for distribution to stockholders after the payment of or provision for all of our debts and other liabilities, subject to the prior rights of any preferred stock then outstanding.

Rights and Preferences

Holders of our common stock have no preemptive rights or other subscription rights and there are no redemption or sinking funds provisions applicable to our common stock. All outstanding shares of our common stock are duly authorized, validly issued, fully paid and nonassessable. The rights, preferences and privileges of 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 preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of the certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to issue up to 10,000,000 shares of 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 dividend, voting and other 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 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 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 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 preferred stock.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Some provisions of Delaware law, our certificate of incorporation and our bylaws contain provisions that could make the following transactions more difficult: an acquisition of us by means of a tender offer; an acquisition of us by means of a proxy contest or otherwise; or the removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions which provide for payment of a premium over the market price for our shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of the increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Stockholder Meetings

Our bylaws provide that a special meeting of stockholders may be called only by our chairman of the board, chief executive officer or president, or by a resolution adopted by a majority of our board of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our bylaws establish advance notice procedures with respect to stockholder proposals to be brought before a stockholder meeting and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.

Elimination of Stockholder Action by Written Consent

Our certificate of incorporation and bylaws eliminate the right of stockholders to act by written consent without a meeting.

Staggered Board

Our board of directors is divided into three classes. The directors in each class serve for a three-year term, one class being elected each year by our stockholders. For more information on the classified board, see “Management—Board Composition and Election of Directors.” This system of electing and removing directors may tend to discourage a third-party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Removal of Directors

Our certificate of incorporation provides that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of not less than two thirds of the total voting power of all of our outstanding voting stock then entitled to vote in the election of directors.

Stockholders Not Entitled to Cumulative Voting

Our certificate of incorporation does not permit stockholders to cumulate their votes in the election of directors. Accordingly, the holders of a majority of the outstanding shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they choose, other than any directors that holders of our convertible preferred stock may be entitled to elect.

Delaware Anti-Takeover Statute

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits persons deemed to be "interested stockholders" from engaging in a "business combination" with a publicly held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors.

Choice of Forum

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware (or, if and only if the Court of Chancery of the State of Delaware lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware) and any appellate court therefrom is the sole and exclusive forum for the following claims or causes of action under the Delaware statutory or common law: (i) any derivative claim or cause of action brought on our behalf; (ii) any claim or cause of action for a breach of fiduciary duty owed by any of our current or former directors, officers, or other employees to us or our stockholders; (iii) any claim or cause of action against us or any of our current or former directors, officers or other employees arising out of or pursuant to any provision of the DGCL, our certificate of incorporation, or our bylaws (as each may be amended from time to time); (iv) any claim or cause of action seeking to interpret, apply, enforce or determine the validity of our certificate of incorporation or our bylaws (as each may be amended from time to time, including any right, obligation, or remedy thereunder); (v) any claim or cause of action as to which the DGCL confers jurisdiction to the Court of Chancery of the State of Delaware; and (vi) any claim or cause of action against us or any of our current or former directors, officers, or other employees governed by the internal-affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants. This choice of forum provision would not apply to claims or causes of action brought to enforce a duty or liability created by the Securities Act, the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction, or the Securities Act. Our certificate of incorporation provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Additionally, our certificate of incorporation provides that any person or entity holding, owning or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to these provisions.

Amendment of Charter Provisions

The amendment of any of the above provisions, except for the provision making it possible for our board of directors to issue convertible preferred stock, would require approval by holders of at least two thirds of the total voting power of all of our outstanding voting stock.

The provisions of Delaware law, our certificate of incorporation and our bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in the composition of our board and management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent's address is 6201 15th Avenue, Brooklyn, New York 11219.

Exchange Listing

Our common stock is listed on the Nasdaq Global Market under the symbol "SNSE".

Exhibit 10.10

EMPLOYMENT AGREEMENT

This **SECOND AMENDED AND RESTATED EMPLOYMENT AGREEMENT** (the "***Agreement***"), is entered into effective as of January 1, 2022 (the "***Effective Date")***, by and between Sensei Biotherapeutics, Inc. (the "***Company***") and Erin Colgan (the "***Executive***"). This Agreement amends restates, and supersedes in its entirety the Offer Letter between the Company and Executive dated June 10, 2020 (the "***Prior Agreement***"*).*

The Company desires to continue to employ Executive, now in the capacity of full-time Chief Financial Officer pursuant to the terms of this Agreement and, in connection therewith, to compensate Executive for Executive's personal services to the Company; and

Executive wishes to continue to be employed by the Company and provide personal services to the Company in return for certain compensation.

Accordingly, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 At-Will Employment. Executive shall continue to be employed by the Company on an "at-will" basis, meaning either the Company or Executive may terminate Executive's employment at any time, with or without cause or advanced notice. Any contrary representations that may have been made to Executive shall be superseded by this Agreement. This Agreement shall constitute the full and complete agreement between Executive and the Company on the "at-will" nature of Executive's employment with the Company, which may be changed only in an express written agreement signed by Executive and a duly authorized officer of the Company. Executive's rights to any compensation following a termination shall be only as set forth in Section 6.

1.2 Position. Subject to the terms set forth herein, the Company agrees to continue to employ Executive now in the position of Chief Financial Officer, and Executive hereby accepts such continued employment. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention to the business of the Company.

1.3 Duties. Executive will report to the President and Chief Executive Officer performing such duties as are normally associated with Executive's then-current position and such duties as are assigned to Executive from time to time, subject to the oversight and direction of the President and Chief Executive Officer. In general, and without limitation, Executive will: serve as a senior leader in the organization and be responsible for all accounting, finance and business operations. Executive shall perform Executive's duties under this Agreement principally out of the Company's office in the Boston, Massachusetts area or such other location as assigned. In addition, Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company.

1.4 Company Policies and Benefits. The employment relationship between the parties shall also continue to be subject to the Company's personnel policies and procedures

as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive will be eligible to participate on the same basis as similarly situated employees in the Company's benefit plans in effect from time to time during Executive's employment. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2. COMPENSATION.

2.1 Salary. Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of $410,000 subject to review and adjustment from time to time by the Company in its sole discretion ("*Base Salary*"). The Base Salary is payable subject to standard federal and state payroll withholding requirements in accordance with the Company's standard payroll practices.

2.2 Annual Bonus. Executive shall be eligible to receive an annual performance bonus of up to 40% (the ***"Target Percentage")*** of Executive's then-current Base Salary (***"Annual Bonus"***). The Annual Bonus will be based upon the Company's assessment of Executive's performance, the Company's attainment of targeted goals as set by the Company's Board of Directors (the ***"Board")*** in its sole discretion, overall economic conditions and forecasts, and related financial factors, all as determined by the Company in its sole discretion. The Annual Bonus, if any, will be subject to applicable payroll deductions and withholdings. Following the close of each calendar year, the Company will determine whether Executive has earned the Annual Bonus, and the amount of any Annual Bonus (which can be less than the Target Percentage), based on the set criteria. No amount of the Annual Bonus is guaranteed, and Executive must be an employee in good standing on the Annual Bonus payment date to be eligible to receive an Annual Bonus; no partial or prorated bonuses will be provided. Executive's eligibility for an Annual Bonus is subject to change in the discretion of the Board (or any authorized committee thereof).

2.3 Future Equity Awards. Executive remains eligible to be considered for future equity awards as may be determined by the Board or a committee of the Board in its discretion in accordance with the terms of any applicable equity plan or arrangement that may be in effect from time to time.

2.4 Expense Reimbursement. The Company will reimburse Executive for all reasonable, documented business expenses incurred in connection with Executive's services hereunder, in accordance with the Company's business expense reimbursement policies and procedures as may be in effect from time to time. For the avoidance of doubt, to the extent that any reimbursements payable to Executive are subject to the provisions of Section 409A (as defined below): (i) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (ii) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (iii) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

3. CONFIDENTIAL INFORMATION. INVENTION ASSIGNMENT. NON-SOLICITATION. AND NON-COMPETITION OBLIGATIONS. As a condition of employment and in consideration of the benefits that Executive is eligible to receive under this Agreement, including, but not limited to, the additional compensation offered and provided to Executive hereunder, and as an express condition of the offer and provision of such additional compensation to Executive, Executive agrees to execute and abide by the Company's Confidential Information, Invention Assignment, Non-Solicitation and Non-Competition Agreement (the "Covenants Agreement") attached hereto as **Exhibit A.** The Covenants Agreements amends, restates, and supersedes in their entirety the Confidentiality, Non-Competition, Non-Solicitation and Intellectual Property Agreement between Executive and the Company dated July 7, 2020.

4. OUTSIDE ACTIVITIES. Except with the prior written consent of the Board, Executive will not, while employed by the Company, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder except for (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve; (ii) reasonable time devoted to activities in the non-profit and business communities consistent with Executive's duties; (iii) Executive's participation in professional and academic activities· and (iv) such other activities as may be specifically approved by the Board. This restriction shall not, however, preclude Executive from managing personal investments or owning less than one percent (1%) of the total outstanding shares of a publicly-traded company.

5. NO CONFLICT WITH EXISTING OBLIGATIONS. Executive represents that Executive's continued performance of all the terms of this Agreement and as an employee of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

6. TERMINATION OF EMPLOYMENT· The parties acknowledge that Executive's employment relationship with the Company continues to be at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause. The provisions in this Section govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status.

6.1 Termination by the Company Without Cause or Resignation by Executive for Good Reason (not in Connection with a Change in Control).

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 6.1 at any time without "Cause" (as defined in Section 6.3(a) below) by giving notice as described in Section 6.7 of this Agreement. A termination pursuant to Section 6.5 or 6.6 below is not a termination without "Cause" for purposes of receiving the Non-CIC Severance Benefits described in (and as defined in) this Section 6.1 or the CIC Severance Benefits described in (and as defined in) Section 6.2.

(b) If the Company terminates Executive's employment at any time without Cause or Executive terminates Executive's employment with the Company for "Good Reason" (as defined in Section 6.1(g) below), in either case, at any time except during the Change in Control Measurement Period (both "Change in Control" and "Change in Control Measurement Period" as defined in Section 6.2 below), then Executive shall be entitled to receive the Accrued Obligations (defined in 6.1 (d) below). If such termination without Cause or for Good Reason not occurring during the Change in Control Measurement Period constitutes 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**"*), and Executive complies with the obligations in Section 6.1 (c) below, Executive shall also be eligible to receive the following *"**Non-CIC Severance Benefits:**"*

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for nine (9) months, less all applicable withholdings and deductions, paid in equal installments beginning on the Company's first regularly scheduled payroll date following the Release Effective Date (as defined in Section 6.1(c) below), with the remaining installments occurring on the Company's regularly scheduled payroll dates thereafter; and

(ii) Provided Executive or Executive's covered dependents, as the case may be, timely elects continued coverage under COBRA, or state continuation coverage (as applicable), under the Company's group health plans following such termination, the Company will pay the portion of the COBRA, or state continuation coverage, premiums which is equal to the cost of the coverage that the Company was paying as of the date of termination, to continue Executive's (and Executive's covered dependents, as applicable) health insurance coverage in effect on the termination date until the earliest of: (1) nine (9) months following the termination date; (2) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (3) the date Executive ceases to be eligible for COBRA or state law continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (1)-(3), (the *"**Non-CIC COBRA Payment Period**"*)). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA, or state continuation coverage, premiums on Executive's behalf would result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying such premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the Non-CIC COBRA Payment Period, a fully taxable cash payment equal to the COBRA or state continuation coverage premium for such month, subject to applicable tax withholding, for the remainder of the Non-CIC COBRA Payment Period. Nothing in this Agreement shall deprive Executive of Executive's rights under COBRA or ERISA for benefits under plans and policies arising under Executive's employment by the Company.

(c) Executive will be paid all of the Accrued Obligations on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Non-CIC Severance Benefits pursuant to Section 6.l(b) or the CIC Severance Benefits pursuant to Section 6.2(a) of this Agreement if: (i) by the sixtieth (60^{th}) day following the date of Executive's Separation from Service, Executive has signed

and delivered to the Company a separation agreement containing an effective, general release of claims in favor of the Company and its affiliates and representatives, in the form presented by the Company (the "***Release***"*),* which will include a non-competition clause which cannot be revoked in whole or part by such date (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"*);* and (ii) if Executive holds any other positions with the Company or any Affiliate, including a position on the Board, Executive resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) Executive returns all Company property; (iv) Executive complies with all post-termination obligations under this Agreement and the Covenants Agreement; and (v) Executive complies with the terms of the Release, including without limitation any non-disparagement and confidentiality provisions contained in the Release.

(d) For purposes of this Agreement, "***Accrued Obligations***" are (i) Executive's accrued but unpaid salary and accrued but unused vacation days, each through the date of termination, (ii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iii) benefits owed to Executive under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

(e) The Non-CIC Severance Benefits provided to Executive pursuant to this Section 6.1 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan policy, program, or prior agreement with the Company. For avoidance of doubt, Executive shall not be eligible for both CLC Severance Benefits and Non-CIC Severance Benefits.

(f) Any damages caused by the termination of Executive's employment without Cause not in connection with a Change in Control would be difficult to ascertain; therefore, the Non-CIC Severance Benefits for which Executive is eligible pursuant to Section 6.l(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full compensation, and not a penalty.

(g) For purposes of this Agreement, "***Good Reason***" shall mean the occurrence of any of the following events without Executive's consent: (i) a material reduction in Executive's Base Salary of at least 10%, other than pursuant to a reduction proportionately affecting all of the Company's other senior level executive employees; (ii) a material reduction in Executive's duties, authority and responsibilities relative to Executive's duties authority, and responsibilities in effect immediately prior to such reduction; (iii) the relocation of Executive's principal place of employment, without Executives consent, in a manner that lengthens Executive's one-way commute distance by fifty (50) or more miles from Executive's then-current principal place of employment immediately prior to such relocation; or (iv) any material breach of this Agreement by the Company; *provided, however,* that any such termination by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of Executive's intent to terminate for Good Reason within thirty (30) days following the first occurrence of the condition(s) that Executive believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the "***Cure Period***")· (3) the Company has not, prior to receiving such notice from Executive already informed Executive that Executive's

employment with the Company is being terminated; and (4) Executive voluntarily terminates Executive's employment within thirty (30) days following the end of the Cure Period.

6.2 Termination by the Company without Cause or Resignation by Executive for Good Reason (in connection with a Change in Control).

(a) In the event that Executive's employment is terminated without Cause or Executive resigns for Good Reason within twelve (12) months following the effective date of a Change in Control *("Change in Control Measurement Period")* of the Company, then Executive shall be entitled to the Accrued Obligations and, subject to Executive's full compliance with Section 6.1 (c) above, including but not limited to the Release requirement and Executive's continued compliance with obligations to the Company under Executive's Covenants Agreement, then Executive will be eligible for the following ***"CIC Severance Benefits:"***

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for twelve (12) months, less all applicable withholdings and deductions, paid in equal installments beginning on the Company's first regularly scheduled payroll date following the Release Effective Date, with the remaining installments occurring on the Company's regularly scheduled payroll dates thereafter;

(ii) Provided Executive or Executive's covered dependents, as the case may be, timely elects continued coverage under COBRA, or state continuation coverage (as applicable), under the Company's group health plans following such termination, the Company will pay the portion of the COBRA, or state continuation coverage, premiums which is equal to the cost of the coverage that the Company was paying as of the date of termination, to continue Executive's (and Executive's covered dependents, as applicable) health insurance coverage in effect on the termination date until the earliest of: (1) twelve (12) months following the termination date; (2) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (3) the date Executive ceases to be eligible for COBRA or state law continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (1)-(3), (the *"CIC* ***COBRA Payment Period"))***. Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA, or state continuation coverage, premiums on Executive's behalf would result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying such premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the CIC COBRA Payment Period, a fully taxable cash payment equal to the COBRA or state continuation coverage premium for such month, subject to applicable tax withholding, for the remainder of the CIC COBRA Payment Period. Nothing in this Agreement shall deprive Executive of Executive's rights under COBRA or ERISA for benefits under plans and policies arising under Executive's employment by the Company;

(iii) The Company will make a lump sum cash payment to Executive in an amount equal to one (1) times the Target Percentage for the year in which the termination occurs, subject to standard deductions and withholdings, which will be paid in a lump sum on the sixtieth (60th) day following Executive's date of Separation from Service; and

(iv) Effective as of Executive's termination date, the vesting and exercisability of all outstanding equity awards held by Executive immediately prior to the termination date (if any) shall be accelerated in full.

(b) For purposes of this Agreement, a "***Change in Control***" shall have the meaning set forth in Plan.

(c) The CIC Severance Benefits provided to Executive pursuant to this Section 6.2 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(d) Any damages caused by the termination of Executive's employment without Cause during the Change in Control Measurement Period would be difficult to ascertain; therefore, the CIC Severance Benefits for which Executive is eligible pursuant to Section 6.2(a) above in exchange for the Release are agreed to by the parties as liquidated damages, to serve as full compensation, and not a penalty.

6.3 Termination by the Company for Cause.

Subject to Section 6.3(b) below, the Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 6.7 of this Agreement.

(a) ***"Cause"*** for termination shall mean that the Company has determined in its sole discretion that Executive has engaged in any of the following: (i) a material breach of any covenant or condition under this Agreement or any other agreement between the parties; (ii) any act constituting dishonesty, fraud, immoral or disreputable conduct; (iii) any conduct which constitutes a felony under applicable law; (iv) material violation of any Company policy or any act of misconduct; (v) refusal to follow or implement a clear and reasonable directive of the Company; (vi) negligence or incompetence in the performance of Executive's duties after the expiration of ten (10) days without cure after written notice of such failure; or (vii) breach of fiduciary duty.

(b) In the event Executive's employment is terminated at any time for Cause, Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.4 Resignation by Executive (other than for Good Reason).

(a) Executive may resign for any reason from Executive's employment with the Company at any time by giving notice as described in Section 6.7.

(b) In the event Executive resigns from Executive's employment with the Company (other than for Good Reason), Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.5 Termination by Virtue of Death or Disability of Executive.

(a) In the event of Executive's death while employed pursuant to this Agreement, all obligations of the parties hereunder shall terminate immediately, and the Company shall, pursuant to the Company's standard payroll policies, provide to Executive's legal representatives Executive's Accrued Obligations, but neither Executive nor Executive's legal representatives will be eligible for the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit.

(b) Subject to applicable state and federal law, the Company shall at all times have the right, upon written notice to the Executive, to terminate this Agreement based on Executive's Disability (as defined below). Termination by the Company of Executive's employment based on *"**Disability**"* shall mean termination because Executive is unable due to a physical or mental condition to perform the essential functions of Executive's position with or without reasonable accommodation for six (6) months in the aggregate during any twelve (12) month period or based on the written certification by two licensed physicians of the likely continuation of such condition for such period. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.6 Termination Due to Discontinuance of Business. Anything in this Agreement to the contrary notwithstanding, in the event the Company's business is discontinued because rendered impracticable by substantial financial losses, lack of funding, legal decisions, administrative rulings, declaration of war, dissolution, national or local economic depression or crisis or any reasons beyond the control of the Company, then this Agreement shall terminate as of the day the Company determines to cease operation with the same force and effect as if such day of the month were originally set as the termination date hereof. In the event this Agreement is terminated pursuant to this Section 6.6, Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.7 Notice; Effective Date of Termination.

(a) Termination of Executive's employment (the *"**Separation Date**")* pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's termination, with or without Cause, unless pursuant to Section 6.3(b)(vi) in which case ten (10) days after notice if not cured, or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) immediately after the Company gives written notice to Executive of Executive's termination account of Executive' s Disability, unless the Company specifies a later Separation Date, in which case, termination shall be effective as of such later Separation Date, *provided* that Executive has not returned to the full-time performance of Executive's duties prior to such date;

(iv) except as addressed by Section 6.7(a)(v), forty-five (45) days (or such shorter period agreed to by the President and Chief Executive Officer and Executive in writing) after Executive gives written notice to the Company of Executive's resignation for any reason, *provided* that the Company may set a Separation Date at any time between the date of notice and the date of resignation, in which case Executive s resignation shall be effective as of such other date. Executive will receive compensation through any required notice period; or

(v) for a termination for Good Reason, immediately upon Executive's full satisfaction of the requirements of Section 6.l(g).

(b) In the event notice of a termination under subsection (a)(i) is given orally, at the other party's request, the party giving notice must provide written confirmation of such notice within five (5) business days of the request in compliance with the requirement of Section 7.1 below. In the event of a termination for Cause or a resignation for Good Reason, written confirmation shall specify the subsection(s) of the definition of Cause or the definition of Good Reason relied on to support the decision to terminate.

6.8 Cooperation With Company After Termination of Employment. Following termination of Executive's employment for any reason, Executive shall reasonably cooperate with the Company in all matters relating to the winding up of Executive's pending work including, but not limited to, any litigation in which the Company is involved, and the orderly transfer of any such pending work to such other employees as may be designated by the Company.

6.9 Effect of Termination. Executive agrees that should Executive's employment be terminated for any reason, Executive shall be deemed to have resigned from any and all positions with the Company and its subsidiaries.

6.10 Application of Section 409A.

(a) It is intended that all of the compensation payable under this Agreement, to the greatest extent possible, either complies with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the *"Code')* and the regulations and other guidance thereunder and any state law of similar effect (collectively, *"Section 409A')* or satisfies one or more of the exemptions from the application of Section 409A, and this Agreement will be construed in a manner consistent with such intention incorporating by reference all required definitions and payment terms.

(b) No severance payments will be made under this Agreement unless Executive's termination of employment constitutes a Separation from Service. For purposes of Section 409A (including, without limitation, for purposes of Treasury Regulations Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement (whether severance payments or otherwise) shall be treated as a right to receive a series of separate

payments and, accordingly, each installment payment hereunder shall at all times be considered a separate and distinct payment.

(c) To the extent that any severance payments are deferred compensation under Section 409A, and are not otherwise exempt from the application of Section 409A, then, to the extent required to comply with Section 409A, if the period during which Executive may consider and sign the Release spans two calendar years, the severance payments will not begin until the second calendar year. If the Company determines that the severance benefits provided under this Agreement constitutes "deferred compensation" under Section 409A and if Executive is a "specified employee" of the Company, as such term is defined in Section 409A(a)(2)(B)(i) of the Code at the time of Executive's Separation from Service, then, solely to the extent necessary to avoid the incurrence of the adverse personal tax consequences under Section 409A, the timing of the severance will be delayed as follows: on the earlier to occur of (a) the date that is six months and one day after Executive's Separation from Service, and (b) the date of Executive's death, the Company will: (i) pay to Executive a lump sum amount equal to the sum of the severance benefits that Executive would otherwise have received if the commencement of the payment of the severance benefits had not been delayed pursuant to this Section 6.10(c); and (ii) commence paying the balance of the severance benefits in accordance with the applicable payment schedule set forth in Sections 6.1 and 6.2. No interest shall be due on any amounts deferred pursuant to this Section 6.10(c).

(d) To the extent required to avoid accelerated taxation and/or tax penalties under Section 409A, amounts reimbursable to Executive under this Agreement shall be paid to Executive on or before the last day of the year following the year in which the expense was incurred and the amount of expenses eligible for reimbursement (and in-kind benefits provided to Executive) during any one year may not effect amounts reimbursable or provided in any subsequent year.

(e) Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under this Agreement comply with Section 409A, and in no event shall the Company be liable for all or any portion of any taxes, penalties, interest, or other expenses that may be incurred by the Executive on account of non- compliance with Section 409A.

6.11 Excise Tax Adjustment.

(a) If any payment or benefit Executive will or may receive from the Company or otherwise (a *"**280G Payment**")* would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this Section, 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 Executive's 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 Executive. 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 this Section 6.11 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 Executive 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 Executive 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 6.11. The Company shall bear all expenses with respect to the determinations by such accounting or law firm required to be made hereunder. The Company shall use commercially reasonable efforts to cause the accounting or law firm engaged to make the determinations hereunder to provide its calculations, together with detailed supporting documentation, to Executive and the Company within fifteen (15) calendar days after the date on which Executive's right to a 280G Payment becomes reasonably likely to occur (if requested at that time by Executive or the Company) or such other time as requested by Executive or the Company.

(d) If Executive receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 6.1l(a) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, Executive agrees to promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 6.11 (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 6.11(a), Executive shall have no obligation to return any portion of the Payment pursuant to the preceding sentence.

7. GENERAL PROVISIONS.

7.1 Notices. Any notices required hereunder to be in writing shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail, telex or confirmed facsimile if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally-recognized overnight courier, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll or Executive's Company-provided email address, or at such other address as the Company or Executive may designate by ten (10) days' advance written notice to the other.

7.2 Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

7.3 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

7.4 Complete Agreement. This Agreement, and the Covenants Agreements, constitute the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements, including the Prior Agreement. This Agreement is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company. The parties have entered into or are entering into a separate Covenants Agreement in connection herewith and have or may enter into separate agreements related to equity awards. These separate agreements govern other aspects of the relationship between the parties, have or may have provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the parties without regard to this Agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

7.5 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same agreement.

7.6 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

7.7 Successors and Assigns. The Company shall assign this Agreement and its rights and obligations hereunder in whole, but not in part, to any Company or other entity with

or into which the Company may hereafter merge or consolidate or to which the Company may transfer all or substantially all of its assets, if in any such case said Company or other entity shall by operation of law or expressly in writing assume all obligations of the Company hereunder as fully as if it had been originally made a party hereto, but may not otherwise assign this Agreement or its rights and obligations hereunder. Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to Executive's estate upon Executive's death.

7.8 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the Commonwealth of Massachusetts.

7.9 Resolution of Disputes.

(a) To ensure the timely and economical resolution of disputes that may arise in connection with Executive's employment with the Company, Executive and the Company agree that any and all disputes, claims, or causes of action arising from or relating to the enforcement, breach, performance, negotiation, execution, or interpretation of this Agreement or Executive's employment, or the termination of Executive's employment, including but not limited to all statutory claims, will be resolved pursuant to the Federal Arbitration Act, 9 U.S.C. § 1-16, and to the fullest extent permitted by law, by final, binding and confidential arbitration by a single arbitrator conducted in ***Boston, Massachusetts*** by Judicial Arbitration and Mediation Services Inc. *("**JAMS**")* under the then applicable JAMS rules (at the following web address: https://www.jamsadr.com/rules-employment-arbitration/); provided, however, this arbitration provision shall not apply to sexual harassment claims to the extent prohibited by applicable law. A hard copy of the rules will be provided to Executive upon request.

(b) By agreeing to this arbitration procedure, both Executive and the Company waive the right to resolve any such dispute through a trial by jury or judge or administrative proceeding. In addition, all claims, disputes, or causes of action under this Section, whether by Executive or the Company, must be brought in an individual capacity, and shall not be brought as a plaintiff (or claimant) or class member in any purported class or representative proceeding, nor joined or consolidated with the claims of any other person or entity. The arbitrator may not consolidate the claims of more than one person or entity, and may not preside over any form of representative or class proceeding. To the extent that the preceding sentences regarding class claims or proceedings are found to violate applicable law or are otherwise found unenforceable, any claim(s) alleged or brought on behalf of a class shall proceed in a court of law rather than by arbitration. The Company acknowledges that Executive will have the right to be represented by legal counsel at any arbitration proceeding.

(c) Questions of whether a claim is subject to arbitration under this Agreement shall be decided by the arbitrator. Likewise, procedural questions which grow out of the dispute and bear on the final disposition are also matters for the arbitrator. The arbitrator shall: (a) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; (b) issue a written arbitration decision, to include the arbitrator's essential findings and conclusions and a statement of the award; and (c) be authorized to award any or all remedies that Executive or the Company would be entitled to seek in a court of law. Executive and the Company shall equally share all JAMS' arbitration fees.

Except as modified in the Covenants Agreements, each party is responsible for its own attorneys' fees.

(d) Claims with respect to a threatened or actual breach of the Covenants Agreement or with respect to the Company's contractual, common law or statutory rights regarding the protection of trade secrets and/or confidential and proprietary information, are expressly excluded from the requirements of this Section 7.9. Accordingly, nothing in this Section 7.9 is intended to prevent or shall prevent the Company from instituting legal action (including immediately seeking injunctive or other equitable relief) in a court of competent jurisdiction in connection with Executive's threatened or actual breach of the Covenants Agreement, or otherwise in connection with the Company's contractual, common law or statutory rights regarding the protection of its trade secrets and confidential and proprietary information.

(e) To the extent applicable law prohibits mandatory arbitration of sexual harassment claims, in the event Executive intends to bring multiple claims, including a sexual harassment claim, the sexual harassment claim may be publicly-filed with a court, while any other claims will remain subject to mandatory arbitration.

[SIGNATURES TO FOLLOW ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed this Employment Agreement on the day and year first written above.

SENSEI BIOTHERAPEUTICS, INC.

By: _____
Name: John Celebi
Title: President and CEO

Executive:

_____
Erin Colgan

Exhibit A

EMPLOYEE CONFIDENTIAL INFORMATION, INVENTIONS ASSIGNMENT, NON-SOLICITATION AND NON-COMPETITION AGREEMENT

Sensei Biotherapeutics, Inc.

EMPLOYEE CONFIDENTIAL INFORMATION, INVENTION ASSIGNMENT, NON-SOLICITATION AND NON-COMPETITION AGREEMENT

In consideration of my employment or continued employment by **SENSEI BIOTHERAPEUTICS, INC.**, its subsidiaries, parents, affiliates, successors and assigns (together "***Company***"*)*, the compensation paid to me now and during my employment with Company, and the additional compensation paid to me in a single lump sum within five (5) business days of the execution of this Agreement in the amount of [$1,000.00] in support of the non-competition covenants described herein, and the Company's agreement to provide me with access to its Confidential Information (as defined below), I hereby enter into this Employee Confidential Information and Invention Assignment Agreement (the "***Agreement***") and agree as follows:

1. Confidential Information Protections.

1.1 Recognition of Company's Rights; Nondisclosure. I understand and acknowledge that my employment by Company creates a relationship of confidence and trust with respect to Company's Confidential Information (as defined below) and that Company has a protectable interest therein. At all times during and after my employment, I will hold in confidence and will not disclose, use, lecture upon, or publish any of Company's Confidential Information, except as such disclosure, use or publication may be required in connection with my work for Company, or unless an officer of Company expressly authorizes such disclosure. I will obtain Company's written approval before publishing or submitting for publication any material (written, oral, or otherwise) that discloses and/or incorporates any Confidential Information. I hereby assign to Company any rights I may have or acquire in such Confidential Information and recognize that all Confidential Information will be the sole and exclusive property of Company and its assigns. I will take all reasonable precautions to prevent the inadvertent accidental disclosure of Confidential Information. Notwithstanding the foregoing, pursuant to 18 U.S.C. Section 1833(b), I will 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.

1.2 Confidential Information. The term "***Confidential Information***" means any and all confidential knowledge, data or information of Company. By way of illustration but not limitation, "***Confidential Information***" includes (a) trade secrets, inventions, mask works, ideas, processes, formulas, software in source or object code, data, programs, other works of authorship, know-how, improvements, discoveries, developments, designs and techniques and any other proprietary technology and all Intellectual Property Rights (as defined below) therein (collectively, "***Inventions***")*;* (b) information regarding research, development, new products, marketing and selling, business plans, budgets and unpublished financial statements, licenses, prices and costs, margins, discounts, credit terms, pricing and billing policies, quoting procedures, methods of obtaining business, forecasts, future plans and potential strategies, financial projections and business

strategies, operational plans, financing and capital-raising plans, activities and agreements, internal services and operational manuals, methods of conducting Company business, suppliers and supplier information, and purchasing; (c) information regarding customers and potential customers of Company, including customer lists, names, representatives, their needs or desires with respect to the types of products or services offered by Company, proposals, bids, contracts and their contents and parties, the type and quantity of products and services provided or sought to be provided to customers and potential customers of Company and other non-public information relating to customers and potential customers; (d) information regarding any of Company's business partners and their services, including names, representatives, proposals, bids, contracts and their contents and parties, the type and quantity of products and services received by Company, and other non-public information relating to business partners; (e) information regarding personnel, employee lists, compensation, and employee skills; and (f) any other non-public information which a competitor of Company could use to the competitive disadvantage of Company. Notwithstanding the foregoing, it is understood that, at all such times, I am free to use information which was known to me prior to my employment with Company or which is generally known in the trade or industry through no breach of this Agreement or other act or omission by me. Notwithstanding the foregoing or anything to the contrary in this Agreement or any other agreement between the Company and me, nothing in this Agreement will limit my right to discuss my employment or report possible violations of law or regulation with the Equal Employment Opportunity Commission, United States Department of Labor, the National Labor Relations Board, the Securities and Exchange Commission, or other federal government agency or similar state or local agency or to discuss the terms and conditions of my employment with others to the extent expressly permitted by Section 7 of the National Labor Relations Act or to the extent that such disclosure is protected under the applicable provisions of law or regulation, including but not limited to “whistleblower” statutes or other similar provisions that protect such disclosure.

1.3 Third Party Information. I understand, in addition, that Company has received and in the future will receive from third parties their confidential and/or proprietary knowledge, data or information **(*“Third Party Information”*)** subject to a duty on Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. During the term of my employment and thereafter, I will hold Third Party Information in confidence and will not disclose to anyone (other than Company personnel who need to know such information in connection with their work for Company) or use, except in connection with my work for Company, Third Party Information or unless expressly authorized by an officer of Company in writing.

1.4 Term of Nondisclosure Restrictions. I understand that Confidential Information and Third Party Information is never to be used or disclosed by me, as provided in this Section 1. If a temporal limitation on my obligation not to use or disclose such information is required under applicable law, and the Agreement or its restriction(s) cannot otherwise be enforced, I agree and Company agrees that the two year period after the date my employment ends will be the temporal limitation relevant to the contested restriction; ***provided, however***, that this sentence will not apply to trade secrets protected without temporal limitation under applicable law.

1.5 No Improper Use of Information of Prior Employers and Others. During my employment by Company, I will not improperly use or disclose confidential information or trade secrets, if any of any former employer or any other person to whom I have an obligation of confidentiality, and I will not bring onto the premises of Company any unpublished documents or any property belonging to any former employer or any other person to whom I have an obligation of confidentiality unless consented to in writing by that former employer or person.

2. Assignments of Inventions.

2.1 Definitions. As used in this Agreement, the term "***Intellectual Property Rights***" means all trade secrets Copyrights trademarks, mask work rights patents and other intellectual property rights recognized by the laws of any jurisdiction or country; the term "***Copyright***" means the exclusive legal right to reproduce, perform, display, distribute and make derivative works of a work of authorship (as a literary, musical, or artistic work) recognized by the laws of any jurisdiction or country; and the term "*Moral Rights*" means all paternity integrity, disclosure, withdrawal special and any other similar rights recognized by the laws of any jurisdiction or country.

2.2 Excluded Inventions and Other Inventions. Attached hereto as **Exhibit A** is a list describing all existing Inventions, if any, (a) that are owned by me or in which I have an interest and were made or acquired by me prior to my date of first employment by Company, (b) that may relate to Company's business or actual or demonstrably anticipated research or development and (c) that are not to be assigned to Company ("***Excluded Inventions***"). If no such list is attached, I represent and agree that it is because I have no Excluded Inventions. For purposes of this Agreement, "***Other Inventions***" means Inventions in which I have or may have an interest, as of the commencement of my employment or thereafter other than Company Inventions (as defined below) and Excluded inventions. I acknowledge and agree that if I use any Excluded Inventions or any Other Inventions in the scope of my employment, or if I include any Excluded Inventions or Other Inventions in any product or service of Company, or if my rights in any Excluded Inventions or Other Inventions may block or interfere with or may otherwise be required for, the exercise by Company of any rights assigned to Company under this Agreement, I will immediately so notify Company in writing. Unless Company and I agree otherwise in writing as to particular Excluded Inventions or Other Inventions, I hereby grant to Company, in such circumstances (whether or not I give Company notice as required above) a non-exclusive perpetual transferable, fully-paid and royalty-free, irrevocable and worldwide license, with rights to sublicense through multiple levels of sublicensees to reproduce, make derivative works of, distribute, publicly perform, and publicly display in any form or medium whether now known or later developed make have made, use, sell, import offer for sale, and exercise any and all present or future rights in, such Excluded Inventions and Other Inventions. To the extent that any third parties have rights in any such Other Inventions, I hereby represent and warrant that such third party or parties have validly and irrevocably granted to me the right to grant the license stated above.

2.3 Assignment of Company Inventions. Inventions assigned to Company or to a third party as directed by Company pursuant to Section 2.6 are referred to in this Agreement as "***Company Inventions***" Subject to Section 2.4 and except for Excluded Inventions set forth in

Exhibit A and Other Inventions, I hereby assign to Company all my right, title, and interest in and to any and all Inventions (and all Intellectual Property Rights with respect thereto) made, conceived, reduced to practice, or learned by me, either alone or with others, during the period of my employment by Company. To the extent required by applicable Copyright laws, I agree to assign in the future (when any copyrightable Inventions are first fixed in a tangible medium of expression) my Copyright rights in and to such Inventions. Any assignment of Company Inventions (and all Intellectual Property Rights with respect thereto) hereunder includes an assignment of all Moral Rights. To the extent such Moral Rights cannot be assigned to Company and to the extent the following is allowed by the laws in any country where Moral Rights exist, I hereby unconditionally and irrevocably waive the enforcement of such Moral Rights, and all claims and causes of action of any kind against Company or related to Company's customers, with respect to such rights. I further acknowledge and agree that neither my successors- in-interest nor legal heirs retain any Moral Rights in any Company Inventions (and any Intellectual Property Rights with respect thereto).

2.4 Unassigned or Nonassignable Inventions. I recognize that this Agreement will not be deemed to require assignment of any Invention that I developed entirely on my own time without using the Company's equipment, supplies, facilities, trade secrets, or Confidential Information, except for those Inventions that either (i) relate to the Company's actual or anticipated business, research or development, or (ii) result from or are connected with work performed by me for the Company. In addition, this Agreement does not apply to any Invention which qualifies fully for protection from assignment to the Company under any specifically applicable state law, regulation, rule or public policy *("**Specific Inventions Law**").*

2.5 Obligation to Keep Company Informed. During the period of my employment, I will promptly and fully disclose to Company in writing all Inventions authored, conceived, or reduced to practice by me, either alone or jointly with others. At the time of each such disclosure, I will advise Company in writing of any Inventions that I believe fully qualify for protection under the provisions of the Specific Inventions Law; and I will at that time provide to Company in writing all evidence necessary to substantiate that belief. Company will keep in confidence and will not use for any purpose or disclose to third parties without my consent any confidential information disclosed in writing to Company pursuant to this Agreement relating to Inventions that qualify fully for protection under the Specific Inventions Law. I will preserve the confidentiality of any Invention that does not fully qualify for protection under the Specific Inventions Law.

2.6 Government or Third Party. I agree that, as directed by Company, I will assign to a third party, including without limitation the United States, all my right, title, and interest in and to any particular Company Invention.

2.7 Ownership of Work Product.

(a) I acknowledge that all original works of authorship which are made by me (solely or jointly with others) within the scope of my employment and which are protectable by Copyright are "works made for hire," pursuant to United States Copyright Act (17 U.S.C., Section 101).

(b) I agree that Company will exclusively own all work product that is

made by me (solely or jointly with others) within the scope of my employment, and I hereby irrevocably and unconditionally assign to Company all right, title, and interest worldwide in and to such work product. I understand and agree that I have no right to publish on, submit for publishing, or use for any publication any work product protected by this Section, except as necessary to perform services for Company.

2.8 Enforcement of Intellectual Property Rights and Assistance. I will assist Company in every proper way to obtain, and from time to time enforce, United States and foreign Intellectual Property Rights and Moral Rights relating to Company Inventions in any and all countries. To that end I will execute, verify and deliver such documents and perform such other acts (including appearances as a witness) as Company may reasonably request for use in applying for, obtaining, perfecting, evidencing, sustaining and enforcing such Intellectual Property Rights and the assignment thereof. In addition, I will execute, verity and deliver assignments of such Intellectual Property Rights to Company or its designee, including the United States or any third party designated by Company. My obligation to assist Company with respect to Intellectual Property Rights relating to such Company Inventions in any and all countries will continue beyond the termination of my employment, but Company will compensate me at a reasonable rate after my termination for the time actually spent by me at Company's request on such assistance. In the event Company is unable for any reason, after reasonable effort, to secure my signature on any document needed in connection with the actions specified in this paragraph, I hereby irrevocably designate and appoint Company and its duly authorized officers and agents as my agent and attorney in fact, which appointment is coupled with an interest, to act for and on my behalf to execute, verify and file any such documents and to do all other lawfully permitted acts to further the purposes of the preceding paragraph with the same legal force and effect as if executed by me. I hereby waive and quitclaim to Company any and all claims, of any nature whatsoever, which I now or may hereafter have for infringement of any Intellectual Property Rights assigned under this Agreement to Company.

2.9 Incorporation of Software Code. I agree that I will not incorporate into any Company software or otherwise deliver to Company any software code licensed under the GNU General Public License or Lesser General Public License or any other license that, by its terms, requires or conditions the use or distribution of such code on the disclosure, licensing, or distribution of any source code owned or licensed by Company except in strict compliance with Company's policies regarding the use of such software.

3. Records. I agree to keep and maintain adequate and current records (in the form of notes, sketches, drawings and in any other form that is required by Company) of all Confidential Information developed by me and all Company Inventions made by me during the period of my employment at Company, which records will be available to and remain the sole property of Company at all times.

4. Duty of Loyalty During Employment. I agree that during the period of my employment by Company, I will not, without Company's express written consent, directly or indirectly engage in any employment or business activity which is directly or indirectly competitive with, or would otherwise conflict with, my employment by Company.

5. No Solicitation of Employees, Consultants, Contractors, or Customers or Potential Customers. Except as modified by Section 10.3 below, I agree that during the period of my employment and for the one year period after the date my employment ends for any reason, including but not limited to voluntary termination by me or involuntary termination by Company, I will not, as an officer, director, employee, consultant, owner, partner, or in any other capacity, either directly or through others, except on behalf of Company:

5.1 solicit, induce, encourage, or participate in soliciting, inducing or encouraging any person known to me to be an employee, consultant, or independent contractor of Company to terminate his or her relationship with Company, even if I did not initiate the discussion or seek out the contact;

5.2 solicit, induce, encourage, or participate in soliciting, inducing, or encouraging any person known to me to be an employee, consultant, or independent contractor of Company to terminate his or her relationship with Company to render services to me or any other person or entity that researches, develops, markets, sells, performs or provides or is preparing to develop, market, sell, perform or provide Conflicting Services (as defined below);

5.3 hire, employ, or engage in a business venture with as partners or owners or other joint capacity, or attempt to hire, employ, or engage in a business venture as partners or owners or other joint capacity, with any person then employed by Company or who has left the employment of Company within the preceding three months to research, develop, market, sell, perform or provide Conflicting Services;

5.4 solicit, induce or attempt to induce any Customer or Potential Customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to Company its relationship with Company;

5.5 solicit or assist in the solicitation of any Customer or Potential Customer to induce or attempt to induce such Customer or Potential Customer to purchase or contract for any Conflicting Services; or

5.6 perform, provide or attempt to perform or provide any Conflicting Services for a Customer or Potential Customer.

The parties agree that for purposes of this Agreement, a *"**Customer or Potential Customer**"* is any person or entity who or which, at any time during the one year period prior to my contact with such person or entity as described in Sections 5.4, 5.5 or 5.6 above if such contact occurs during my employment or, if such contact occurs following the termination of my employment, during the one year period prior to the date my employment with Company ends: (i) contracted for was billed for, or received from Company any product, service or process with which I worked directly or indirectly during my employment by Company or about which I acquired Confidential Information; or (ii) was in contact with me or in contact with any other employee, owner, or agent of Company, of which contact I was or should have been aware, concerning the sale or purchase of, or contract for, any product, service or process with which I worked directly or indirectly during my employment with Company or about which I acquired Confidential Information; or (iii) was solicited by Company in an effort in which I was involved or of which I was aware.

6. Non-Compete Provision.

6.1 Except as modified by Section 10.3 below, unless I am classified as

nonexempt under the Fair Labor Standards Act, 29 U.S.C. 201-219, I agree that during the period of my employment and for the one year period after the termination of my employment relationship with the Company due to voluntary termination by me or involuntary termination by the Company for Cause (defined below), I will not, whether paid or not: (i) serve as a partner, principal, licensor, licensee, employee, consultant, officer, director, manager, agent, affiliate, representative, advisor, promoter, associate, investor, or otherwise for, (ii) directly or indirectly, own, purchase, organize or take preparatory steps for the organization of, or (iii) build, design, finance acquire, lease, operate, manage, control, invest in, work or consult for or otherwise join, participate in or affiliate myself with, any business whose business, products or operations are in any respect involved in Conflicting Services (defined below) anywhere in the Restricted Territory (defined below). Should I obtain other employment during my employment with the Company or within 12 months immediately following the termination of my relationship with the Company, I agree to provide written notification to the Company as to the name and address of my new employer, the position that I expect to hold, and a general description of my duties and responsibilities, at least three business days prior to starting such employment.

6.2 The parties further agree that for purposes of this Agreement, "***Conflicting Services***" means any business in which the Company is engaged or in which the Company has plans to be engaged, or any service that the Company provides or has plans to provide.

6.3 I agree that for purposes of this Agreement, "***Restricted Territory***" means the geographic areas in which I provided services for the Company or had a material presence or influence during any time within the last two years prior to the termination of my relationship with the Company.

6.4 I agree that for purposes of this Agreement, "***Cause***" shall mean a termination of my employment by the Company due to my misconduct or failure to meet the Company's performance expectations.

6.5 The Company may elect to enforce the provisions of this Section 6 or waive them at its sole discretion. If the Company elects to enforce the provisions of this Section, such election may be accomplished by the Company providing me with written notice of its election to enforce: (A) on or before the last day of my employment with the Company pursuant to an involuntary termination by the Company for Cause, or (B) within 2 weeks after the Company's receipt of written notice from me of my resignation from employment. If the Company elects to enforce the provisions of this Section 6 then the Company must either: (i) accelerate the vesting of my Company stock options by 12 months ***("Mutually Agreed Upon Consideration")***, or, in the event I do not have any Company stock options, (ii) pay me continuing salary payments for one year following termination of my employment at a rate equal to no less than 50% of the highest annualized base salary paid to me by the Company within the two years prior to the termination of my relationship with the Company ***("Garden Leave Payments").*** Notwithstanding anything to the contrary above, the Company may enforce the covenants in this Section 6 without providing the Garden Leave Payments, if applicable, if it determines in good faith that I breached this Section 6 or unlawfully misappropriated the Company's physical or electronic property. For avoidance of doubt, the Company's failure to timely elect to enforce the provisions of this Section 6 shall be construed as its waiver of

the provisions of this Section 6. For further avoidance of doubt, if the Company does not elect to enforce, I am classified as nonexempt under the Fair Labor Standards Act, 29 U.S.C. 201-219, or the Company is otherwise prohibited by law or a court from enforcing, the provisions of this Section 6, I will not be subject to the restrictions in this Section 6 nor will I be entitled to any Mutually Agreed Upon Consideration or Garden Leave Payments.

6.6 I acknowledge that I have received no compensation from the Company in exchange for my agreement to the restrictions in this Section 6.

7. Reasonableness of Restrictions.

7.1 I agree that I have read this entire Agreement and understand it. I acknowledge that I have the right to consult with counsel prior to signing this Agreement. I further acknowledge that I will derive significant value from the Company's agreement to provide me with Company Confidential Information to enable me to optimize the performance of my duties to the Company. I further acknowledge that my fulfillment of the obligations contained in this Agreement, including, but not limited to, my obligation neither to disclose nor to use Company Confidential Information other than for the Company's exclusive benefit and my obligations not to compete and not to solicit are necessary to protect Company Confidential Information and, consequently, to preserve the value and goodwill of the Company. I agree that this Agreement does not prevent me from earning a living or pursuing my career. I agree that the restrictions contained in this Agreement are reasonable, proper, and necessitated by Company's legitimate business interests. I represent and agree that I am entering into this Agreement freely and with knowledge of its contents with the intent to be bound by the Agreement and the restrictions contained in it.

7.2 In the event that a court finds this Agreement, or any of its restrictions, to be ambiguous, unenforceable, or invalid, I and Company agree that the court will read the Agreement as a whole and interpret the restriction(s) at issue to be enforceable and valid to the maximum extent allowed by law.

7.3 If the court declines to enforce this Agreement in the manner provided in subsection 7.2, Company and I agree that this Agreement will be automatically modified to provide Company with the maximum protection of its business interests allowed by law and I agree to be bound by this Agreement as modified.

8. No Conflicting Agreement or Obligation. I represent that my performance of all the terms of this Agreement and as an employee of Company does not and will not breach any agreement to keep in confidence information acquired by me in confidence or in trust prior to my employment by Company. I have not entered into, and I agree I will not enter into, any agreement either written or oral in conflict with this Agreement.

9. Return of Company Property. When I leave the employ of Company, I will deliver to Company any and all drawings, notes, memoranda, specifications, devices, formulas and documents, together with all copies thereof, and any other material containing or disclosing any Company Inventions, Third Party Information or Confidential Information of Company. I agree that I will not copy, delete, or alter any information contained upon my Company computer or Company equipment before I return it to Company. In addition, if I have used any personal computer, server, or e-mail system to receive, store, review, prepare or

transmit any Company information, including but not limited to, Confidential Information, I agree to provide Company with a computer-useable copy of all such Confidential Information and then permanently delete and expunge such Confidential Information from those systems; and I agree to provide Company access to my system as reasonably requested to verify that the necessary copying and/or deletion is completed. I further agree that any property situated on Company's premises and owned by Company, including disks and other storage media, filing cabinets or other work areas, is subject to inspection by Company's personnel at any time with or without notice. Prior to leaving, I will cooperate with Company in attending an exit interview and completing and signing Company's termination statement if required to do so by Company.

10. Legal and Equitable Remedies.

10.1 I agree that it may be impossible to assess the damages caused by my violation of this Agreement or any of its terms. I agree that any threatened or actual violation of this Agreement or any of its terms will constitute immediate and irreparable injury to Company, and Company will have the right to enforce this Agreement and any of its provisions by injunction, specific performance or other equitable relief, without bond and without prejudice to any other rights and remedies that Company may have for a breach or threatened breach of this Agreement.

10.2 I agree that if Company is successful in whole or in part in any legal or equitable action against me under this Agreement, Company will be entitled to payment of all costs, including reasonable attorney's fees, from me.

10.3 In the event Company determines that I have breached a fiduciary duty owed to it or misappropriated the Company's physical or electronic property, I agree that the restrictions of Sections 5 and 6 will remain in effect for a period of 24 months after the termination of my relationship with the Company.

11. Notices. Any notices required or permitted under this Agreement will be given to Company at its headquarters location at the time notice is given, labeled “Attention Chief Executive Officer,” and to me at my address as listed on Company payroll, or at such other address as Company or I may designate by written notice to the other. Notice will be effective upon receipt or refusal of delivery. If delivered by certified or registered mail, notice will be considered to have been given five business days after it was mailed, as evidenced by the postmark. If delivered by courier or express mail service, notice will be considered to have been given on the delivery date reflected by the courier or express mail service receipt.

12. Publication of This Agreement to Subsequent Employer or Business Associates of Employee.

12.1 If l am offered employment or the opportunity to enter into any business venture as owner, partner, consultant or other capacity while the restrictions described in Sections 5 and 6 of this Agreement are in effect I agree to inform my potential employer, partner, co- owner and/or others involved in managing the business with which I have an opportunity to be associated of my obligations under this Agreement and also agree to provide such person or persons with a copy of this Agreement.

12.2 I agree to inform Company of all employment and business ventures which I enter into while the restrictions described in

Sections 5 and 6 of this Agreement are in effect and I also authorize Company to provide copies of this Agreement to my employer, partner, co-owner and/or others involved in managing the business with which I am employed or associated and to make such persons aware of my obligations under this Agreement.

13. General Provisions.

13.1 Governing Law; Consent to Personal Jurisdiction. This Agreement will be governed by and construed according to the laws of the Commonwealth of Massachusetts as such laws are applied to agreements entered into and to be performed entirely within Massachusetts between residents of Massachusetts. I hereby expressly consent to the personal jurisdiction and venue of the state and federal courts located in Massachusetts for any lawsuit filed there against me by Company arising from or related to this Agreement, and the parties' expressly agree to venue in Massachusetts Superior Court, Suffolk County, Business Litigation Session with respect to any disputes hereunder.

13.2 Severability. In case any one or more of the provisions, subsections, or sentences contained in this Agreement will, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect the other provisions of this Agreement, and this Agreement will be construed as if such invalid, illegal or unenforceable provision had never been contained in this Agreement. If moreover, any one or more of the provisions contained in this Agreement will for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it will be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it will then appear.

13.3 Successors and Assigns. This Agreement is for my benefit and the benefit of Company, its successors, assigns, parent corporations, subsidiaries, affiliates, and purchasers, and will be binding upon my heirs, executors, administrators and other legal representatives.

13.4 Survival. This Agreement will survive the termination of my employment, regardless of the reason, and the assignment of this Agreement by Company to any successor in interest or other assignee.

13.5 Employment At-Will. I agree and understand that nothing in this Agreement will change my at-will employment status or confer any right with respect to continuation of employment by Company, nor will it interfere in any way with my right or Company's right to terminate my employment at any time, with or without cause or advance notice.

13.6 Waiver. No waiver by Company of any breach of this Agreement will be a waiver of any preceding or succeeding breach. No waiver by Company of any right under this Agreement will be construed as a waiver of any other right. Company will not be required to give notice to enforce strict adherence to all terms of this Agreement.

13.7 Export. I agree not to export, re export, or transfer, directly or indirectly any U.S. technical data acquired from Company or any products utilizing such data in violation of the United States export laws or regulations.

13.8 Counterparts. 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.

13.9 Advice of Counsel. I ACKNOWLEDGE THAT, IN EXECUTING THIS AGREEMENT, I HAVE HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND I HAVE READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

13.10 Entire Agreement. The obligations pursuant to Sections I and 2 (except Subsection 2.4 and Subsection 2.7(a)) of this Agreement will apply to any time during which I was previously engaged, or am in the future engaged, by Company as a consultant if no other agreement governs nondisclosure and assignment of inventions during such period. This Agreement is the final, complete and exclusive agreement of the parties with respect to the subject matter of this Agreement and supersedes and merges all prior discussions between us; provided, however, prior to the execution of this Agreement, if Company and I were parties to any agreement regarding the subject matter hereof, that agreement will be superseded by this Agreement prospectively only. No modification of or amendment to this Agreement will be effective unless in writing and signed by the party to be charged. Any subsequent change or changes in my duties, salary or compensation will not affect the validity or scope of this Agreement.

[signatures to follow on next page]

This Agreement has been provided to me ten (10) days prior to the effective date of the Agreement.
This Agreement will therefore be effective as of March 7, 2022.

EMPLOYEE:

I have read this agreement carefully and understand its terms. I have completely filled out Exhibit A to this Agreement.

(Signature)

This Agreement has been provided to me ten (10) days prior to the effective date of the Agreement.
This Agreement will therefore be effective as of March 7, 2022.

EMPLOYEE:

I have read this agreement carefully and understand its terms. I have completely filled out Exhibit A to this Agreement.

(Signature)

Erin Colgan
Name

3/7/2022
Date

ecolgan@senseibio.com
Email

COMPANY:

Accepted and agreed

SENSEI BIOTHERAPEUTICS, INC.

COMPANY:
Accepted and agreed
SENSEI BIOTHERAPEUTICS, INC.

By: _____
Name: John Celebi
Title: President and CEO
Email: jcelebi@senseibio.com

By:
Name: John Celebi
Title: President and CEO
Email: jcelebi@senseibio.com

EXHIBIT A

EXCLUDED INVENTIONS

TO: Sensei Biotherapeutics, Inc.

FROM: Erin Colgan

DATE: 3/7/2022

1. Excluded Inventions Disclosure. Except as listed in Section 2 below, the following is a complete list of all Excluded Inventions:

☐ No Excluded Inventions.

☐ See below:

_____

_____

_____

_____

_____

☐ Additional sheets attached.

2. Due to a prior confidentiality agreement, I cannot complete the disclosure under Section 1 above with respect to the Excluded Inventions generally listed below, the intellectual property rights and duty of confidentiality with respect to which I owe to the following party(ies):

	Excluded Invention	**Party(ies)**	**Relationship**
1.			
2.			
3.			

☐ Additional sheets attached.

Exhibit 10.12

SENSEI BIOTHERAPEUTICS, INC.

NON-EMPLOYEE DIRECTOR COMPENSATION POLICY

AS AMENDED AND RESTATED EFFECTIVE JANUARY 1, 2022

Each member of the Board of Directors (the "***Board***") who is not also serving as an employee of or consultant to Sensei Biotherapeutics, Inc. (the "***Company***") or any of its subsidiaries (each such member, an "***Eligible Director***") will receive the compensation described in this Non-Employee Director Compensation Policy for his or her Board service. An Eligible Director may decline all or any portion of his or her compensation by giving notice to the Company prior to the date cash may be paid or equity awards are to be granted, as the case may be. This policy may be amended at any time in the sole discretion of the Board or the Compensation Committee of the Board.

Annual Cash Compensation

The annual cash compensation amount set forth below is payable to Eligible Directors in equal quarterly installments, payable in arrears on the last day of each fiscal quarter in which the service occurred. If an Eligible Director joins the Board or a committee of the Board at a time other than effective as of the first day of a fiscal quarter, each annual retainer set forth below will be pro-rated based on days served in the applicable fiscal quarter, with the pro-rated amount paid on the last day of the first fiscal quarter in which the Eligible Director provides the service and regular full quarterly payments thereafter. All annual cash fees are vested upon payment.

1. Annual Board Service Retainer:
    a. All Eligible Directors: $35,000
    b. Independent Chair of the Board Service Retainer (in addition to Eligible Director Service Retainer): $30,000

2. Annual Committee Chair Service Retainer:
    a. Chair of the Audit Committee: $15,000
    b. Chair of the Compensation Committee: $10,000
    c. Chair of the Nominating and Corporate Governance Committee: $8,000

3. Annual Committee Member Service Retainer (not applicable to Committee Chairs):
    a. Member of the Audit Committee: $7,500
    b. Member of the Compensation Committee: $5,000
    c. Member of the Nominating and Corporate Governance Committee: $4,000

Equity Compensation

The equity compensation set forth below will be granted under the Company's 2021 Equity Incentive Plan (the "***Plan***"). All stock options granted under this policy will be nonstatutory stock options, with an exercise price per share equal to 100% of the Fair Market Value (as

defined in the Plan) of the underlying Common Stock on the date of grant, and a term of ten years from the date of grant (subject to earlier termination in connection with a termination of service as provided in the Plan).

1. Initial Grants: For each Eligible Director who is first elected or appointed to the Board, on the date of such Eligible Director's initial election or appointment to the Board (or, if such date is not a market trading day, the first market trading day thereafter), the Eligible Director will be automatically, and without further action by the Board or the Compensation Committee of the Board, granted a stock option to purchase 29,100 shares of Common Stock (the "***Initial Option Grant***") and a restricted stock unit award for 8,933 shares of Common Stock (the "***Initial RSU Award***"). The shares subject to each Initial Option Grant will vest in equal monthly installments over a three year period such that the option is fully vested on the third anniversary of the date of grant, subject to the Eligible Director's Continuous Service through each such vesting date and will vest in full upon a Change in Control, subject to the Eligible Director's Continuous Service through such date. The shares subject to each Initial RSU Award will vest in equal annual installments over a three year period such that the Initial RSU Award is fully vested on the third anniversary of the date of grant, subject to the Eligible Director's Continuous Service through each such vesting date and will vest in full upon a Change in Control, subject to the Eligible Director's Continuous Service through such date.

2. Annual Grants: On the date of each annual stockholder meeting of the Company, each Eligible Director who has served as a non-employee member of the Board for at least six months prior to such stockholder meeting and who continues to serve as a non-employee member of the Board following such stockholder meeting will be automatically, and without further action by the Board or the Compensation Committee of the Board, granted a stock option to purchase 14,550 shares of Common Stock (the "***Annual Option Grant***") and a restricted stock unit award for 4,466 shares of Common Stock (the "***Annual RSU Award***"). The shares subject to the Annual Option Grant will vest in equal monthly installments over a one year period such that the option is fully vested on the first anniversary of the date of grant, subject to the Eligible Director's Continuous Service through each such vesting date; provided, that the Annual Option Grant will in any case be fully vested on the date of Company's next annual stockholder meeting, subject to the Eligible Director's Continuous Service through such vesting date; provided, further, that the Annual Option Grant will vest in full upon a Change in Control, subject to the Eligible Director's Continuous Service through such date. The shares subject to the Annual RSU Award will vest in full on the first anniversary of the date of grant, subject to the Eligible Director's Continuous Service through such vesting date; provided that the Annual RSU Award will vest in full upon a Change in Control, subject to the Eligible Director's Continuous Service through such date.

Exhibit 10.13

December 1, 2021

Via Electronic Delivery

Marie-Louise Fjaellskog, MD, PhD

_____

_____

Re: Separation from Employment; Waiver of Non-Competition Provision

Dear Marie-Louise:

As we have discussed, your employment with Sensei Biotherapeutics, Inc. (the "Company") will be concluding on December 5, 2021. With respect to the conclusion of your employment with the Company, please note the following important information.

- Your formal separation date from the Company will be December 5, 2021 (the "Separation Date"). Such separation will be treated as a resignation (other than for Good Reason) pursuant to Section 6.4 of your employment agreement with the Company (the "Employment Agreement").

- You will be provided with your final wages through the Separation Date.

- Your medical benefits with the Company will conclude on the last day of the month. You may be eligible for benefits with a new employer or may elect to continue your medical benefits pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985 as amended ("COBRA"). Under separate cover, we will provide you with COBRA information for your review and consideration.

- Enclosed please find the separation agreement that we have discussed. Please feel free to consult with an independent advisor of your own choice regarding the terms of the separation agreement, and to contact us with any questions you may have about it. If you decide to execute the separation agreement, please return one fully executed original to me within twenty one (21) days. After that time, the offer will lapse. If you sign within the 21-day period and do not rescind your acceptance during a seven (7) day rescission period thereafter, then the separation agreement will become effective on the 8th day following your signing of the separation agreement.

- Enclosed please find a pamphlet providing information on applying for unemployment compensation. Please note that the Massachusetts Department of Unemployment Assistance (DUA), and not you or the Company, makes determination regarding unemployment benefits eligibility.

- You are required to promptly return to the Company all of its property presently in your possession, which may include software, hardware, equipment, cell phones, documents, electronic data or files (and any copies thereof).

- *Waiver of Non-Competition Provision:* Pursuant to Section 6 of your Employee Confidential Information and Invention Assignment Agreement (the "Covenants Agreement"), by this letter the Company is providing you with written notice of its election to waive the Non-Compete Provision described in Section 6 of your Covenants Agreement. Pursuant to this waiver, the Non-Compete Provision in the Covenants Agreement will not apply to you, and you will be not be eligible for or entitled to any Mutually Agreed Upon Consideration or Garden Leave Payments, as those terms are defined and described in Section 6 of the Covenants Agreement. In addition, by this letter, the Company is providing you with written notice that it also is electing to waive the non-compete provision set forth in Section A (Notice of Stock Option Grant), of the Stock Option Agreement, to the extent that such non-compete provision is enforceable. Pursuant to this waiver, the non-compete provision set forth in the Stock Option Agreement will not apply to you.

- Subject to the waiver described above, we remind you that the remaining obligations set forth in your Covenants Agreement (for instance, protection of confidential information (Section 1), assignment of inventions (Section 2), non-solicitation of employees, consultants, contractors, customers or potential customers (Section 5), etc.) remain in effect despite the termination of your employment, and we trust that you will honor them.

Please contact me if you have any questions regarding this process. We wish you well in your future endeavors.

Sincerely,

Sensei Biotherapeutics, Inc.

DocuSigned by:
John Celebi
5C8A54A1D927455...

John Celebi
Chief Executive Officer

Enclosure
cc: Elisabeth Colunio, VP Human Resources

Separation Agreement

This Separation Agreement (the "Agreement"), dated December 1, 2021, by and between Marie-Louise Fjaellskog, MD, PhD (the "Employee") and Sensei Biotherapeutics, Inc. (the "Company") (each a "Party" and together the "Parties") confirms the Parties' agreement and understanding regarding the terms of the Employee's separation of employment from the Company.

As more fully set forth below, the Company desires to provide the Employee with severance pay and benefits in exchange for certain agreements by the Employee. The Employee may take up to **twenty one (21) days** to review and sign this Agreement. This Agreement shall become effective on the **eighth (8th) day** following the Employee's acceptance of it (the "Effective Date"), as provided below.

Now, therefore, in consideration of the mutual promises, terms, provisions, and conditions contained herein, the Parties agree as follows:

1. Separation. The Employee's employment with the Company shall end effective December 5, 2021 (the "Separation Date"). From and after the Separation Date, the Employee shall have no authority and shall not represent Employee as an employee or agent of the Company. Irrespective of whether the Employee signs this Agreement, the Company shall provide the Employee with (a) the Employee's accrued but unpaid salary through the Separation Date, (b) any unreimbursed business expenses incurred by the Employee payable in accordance with the Company's standard expense reimbursement policies, and (c) benefits owed to the Employee under any qualified retirement plan or health and welfare benefit plan in which the Employee was a participant in accordance with applicable law and the provisions of such plan.

2. Severance Benefit. In exchange for the mutual covenants set forth in this Agreement, beginning as soon as practicable after the Effective Date, the Company agrees to provide the Employee with the following payments and benefits (together, the "Severance Benefit"):

(a) The Company shall pay the Employee an amount equal to the Employee's then current base salary for four (4) months, less all applicable withholdings and deductions, paid in a single lump sum within three (3) business days of the Effective Date; and

(b) Provided the Employee or the Employee's covered dependents, as the case may be, timely elects continued coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), or state continuation coverage (as applicable), under the Company's group health plans following such termination, the Company shall pay the portion of COBRA, or state continuation coverage, premiums which is equal to the cost of the coverage that the Company was paying as of the Separation Date, to continue the Employee's (and the Employee's covered dependents, as applicable) health insurance coverage in effect on the termination date until the earliest of: (i) six (6) months following the Separation Date; (ii) the date when the Employee becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (iii) the date the Employee ceases to be eligible for COBRA or state law continuation coverage for any reason, including plan termination. Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA, or state continuation coverage, premiums on the Employee's behalf would result in a violation of applicable law (including, but not limited to the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying such premiums pursuant to this Section, the Company shall pay the Employee on the last day of each remaining month of the above-described six-month period, a fully taxable cash payment equal to the COBRA or state continuation coverage premium for such month, subject to applicable tax withholding, for the remainder of such period. Nothing in this Agreement shall deprive the Employee of the Employee's rights under

COBRA or ERISA for benefits under plans and policies arising under the Employee's employment by the Company.

The Severance Benefit is not otherwise due to the Employee under any Company employment agreement, policy or practice, shall not constitute a severance plan, and shall confer no benefit on anyone other than the parties hereto. Except for the specific financial consideration set forth herein, the Employee is not entitled to any other compensation including, without limitation, wages, bonuses, incentive compensation, vacation pay, holiday pay, equity, or any other form of compensation or benefit.

3. **Equity.** To the extent applicable, the terms and conditions of the PPI Holdings, Inc. 2018 Stock Incentive Plan (the "2018 Equity Plan") and the Sensei Biotherapeutics, Inc. 2021 Equity Incentive Plan (the "2021 Equity Plan") (collectively, the "Equity Plans") and any stock option agreements executed by the Employee pursuant thereto (collectively the "Stock Option Agreements") are expressly incorporated by reference herein and shall survive the signing of this Agreement. Any unvested stock options under the Equity Plans or Stock Option Agreements shall immediately lapse and be forfeited without consideration as of the Separation Date. Following the Separation Date, the Employee shall not have any right to acquire or vest in any form of equity under the Equity Plans or Stock Option Agreements, and there shall be no acceleration of vesting of any unvested stock options or other equity incentives under the Equity Plans or Stock Option Agreements. Notwithstanding the foregoing, and subject to approval of the Board of Directors and the terms and conditions of the 2018 Equity Plan, the Company shall extend the thirty (30) day post-service exercise period of any vested options under the 2018 Equity Plan to a period of ninety (90) days following the Separation Date.[1/] Please note that the amendment of the exercise period under the 2018 Equity Incentive Plan may impact the treatment of options deemed to be incentive stock options taxable in accordance with Section 422 of the Internal Revenue Code of 1986, as amended (i.e., such options may be converted into non-qualified stock options, taxable upon exercise). You acknowledge and agree that the Company does not guarantee or make any representations regarding the tax consequences of this provision or the tax treatment of any stock options.

4. **COBRA.** Irrespective of whether the Employee signs this Agreement, the Employee shall be eligible to continue the Employee's healthcare benefits pursuant to COBRA, and subject to applicable COBRA requirements and conditions.

5. **Unemployment.** The Company shall not contest any claim for unemployment benefits by the Employee with the Massachusetts Division of Unemployment Assistance. The Company, of course, shall not be required to falsify any information.

[1/] The three (3) month post-service exercise period under the 2021 Equity Plan shall remain unchanged.

6. **Cooperation.** Following the Separation Date, the Employee shall cooperate fully with the Company in connection with any matter relating to the Employee's employment, including, but not limited to: (a) being available upon reasonable notice to meet with the Company regarding matters in which the Employee has been involved, including any contract matters or audits; (b) .in the defense or prosecution of claims now in existence or which may be brought or threatened in the future against or on behalf of the Company, including claims or actions against its affiliates. and its and their officers and employees, with such cooperation including (as applicable) preparing for, attending and participating in any legal proceeding, including affidavits, depositions, consultation, discovery or trial; and (c) assisting with audits, inspections, proceedings or other inquiries.

7. **Non-Competition.** The Employee agrees that for a period of twelve (12) months following the Separation Date, the Employee shall not perform work on any programs targeting VISTA. The Employee acknowledges and agrees that it may be impossible to assess the damages caused by the Employee's violation of Section 7. The Employee agrees that any threatened or actual violation of Section 7 shall constitute immediate and irreparable injury to the Company, and the Company shall have the right to enforce the terms of Section 7 by injunction, specific performance or other equitable relief, without bond and without prejudice to any other rights and remedies that the Company may have for a breach or threatened breach of Section 7, including, but not limited to, the right to terminate the provision of Severance Benefits and to recover any Severance Benefits already provided to the Employee hereunder. The Employee agrees that if the Company is successful in whole or in part in any legal or equitable action against the Employee under Section 7, then the Company shall be entitled to payment of all costs, including reasonable attorney's fees, from the Employee.

8. **Covenants.** The Employee acknowledges and agrees to the following:

(a) Return of Property: Non-Disclosure. The Employee has returned to the Company and has not retained any the Company files, documents or property, or any copies thereof in any form or media, including any cell phones, computer, keys and key cards. Without limiting the foregoing, the Employee shall not disclose any Company trade secrets or confidential and proprietary information, and shall abide by all common law and statutory obligations relating to protection and non-disclosure of the Company's trade secrets and confidential and proprietary information.

(b) Employee Confidential Information and Invention Assignment Agreement. As stated in the cover letter to this Agreement, the Company has provided the Employee with written notice of its election to *waive* the provisions of Section 6 (Non-Compete Provision) of the Employee's Employee Confidential Information and Invention Assignment Agreement (the "Covenants Agreement") and the non-compete provisions set forth in Section A of the Stock Option Agreement. Subject to this waiver, the remaining obligations set forth in the Covenants Agreement (e.g., protection of confidential information (Section 1), assignment of inventions (Section 2), non-solicitation of employees, consultants, contractors, customers or potential customers (Section 5), etc.) and the remaining provisions set forth in Section A of the Stock Option Agreement remain in effect despite the termination of the Employee's employment, and the Employee agrees to abide by such obligations.

(c) Confidentiality. All information relating to the terms of this Agreement shall be held confidential by the Employee and shall not be publicized or disclosed to any third party, provided that: (i) disclosure may be made to an immediate family member, legal counsel or financial advisor who agrees to be bound by these confidentiality obligations; and (ii) nothing in this section shall restrict the Employee from making any disclosures mandated by state or federal law, from providing information to a state or federal governmental agency or body if requested by the governmental agency or body to do so, or from participating in an investigation with such governmental agency or body if requested to do so.

(d) Non-Disparagement. The Employee shall not make any statements that are professionally or personally disparaging about the Company or its officers, directors or managers, in any verbal or written form, or in any

media or communication platform, including any statements that disparage any product, service, finances, capability or any other aspect of the Company; provided that nothing in this section shall restrict the Employee from making any disclosures mandated by state or federal law, from providing information to a state or federal governmental agency or body if requested to do so, or from participating in an investigation with such governmental agency or body if requested to do so.

(e) Material Breach. The Employee acknowledges and agrees that the provisions of this Section 8 are material provisions of this Agreement and represent important consideration for the Company's agreement to enter into this Agreement and to provide the Employee with the Severance Benefit. Accordingly, the Employee further acknowledges and agrees that a breach of any of the provisions of this Section 8 shall constitute a material breach of this Agreement and, in addition to any other legal or equitable remedy available to the Company, shall entitle the Company to terminate the provision of Severance Benefits and to recover any Severance Benefits already provided to the Employee hereunder.

9. Release of Claims.

(a) Employee Release. The Employee expressly agrees and acknowledges that by signing this Agreement, and for other good and valuable consideration provided for in this Agreement, the Employee is waiving and releasing the Employee's right to assert any form of legal claim against the Company[2/] whatsoever for any alleged action, inaction or circumstance existing or arising from the beginning of time through the date that the Employee signs this Agreement. The Employee's waiver and release herein is intended to bar any form of legal claim, charge, complaint or any other form of action (jointly referred to as "Claims") against the Company seeking any form of relief, including equitable relief, recovery of damages, or recovery of any other form of monetary recovery (including back pay, front pay, compensatory damages, emotional distress damages, punitive damages, attorney's fees and any other costs) for any alleged action, inaction or circumstance existing through the date that the Employee signs this Agreement. Without limiting the foregoing, the Employee waives and releases the Company from any waivable claim arising from or related to the Employee's employment relationship with the Company up through the date that the Employee signs this Agreement, including: (i) Claims under any Massachusetts or any other state or federal statute, regulation or executive order (as amended) related to fair employment practices, discrimination, harassment, leaves of absence, wages, hours, or any other terms and conditions of employment, including the Age Discrimination in Employment Act, the Older Workers Benefit

[2/] For the purposes of this section, the parties agree that the term the "Company" shall include Sensei Biotherapeutics, Inc. and its divisions, affiliates, parents and subsidiaries, and its and their respective officers, directors, shareholders, owners, employees, attorneys, agents and assigns.

Protection Act, the Civil Rights Acts of 1866 and 1871, Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Equal Pay Act, the Americans With Disabilities Act, the Genetic Information Non-Discrimination Act, the Lilly Ledbetter Fair Pay Act, the National Labor Relations Act, the Family and Medical Leave Act, the Families First Coronavirus Response Act, the Coronavirus Aid, Relief, and Economic Security Act, the Employee Retirement Income Security Act of 1974, COBRA, the Worker Adjustment and Retraining Notification Act, the Uniformed Services Employment and Reemployment Rights Act, the Massachusetts Fair Employment Practices Statute, the Massachusetts Equal Rights Act, Massachusetts Civil Rights Act, the Massachusetts Wage Act, the Massachusetts Minimum Fair Wages Act, the Massachusetts Equal Pay Act, the Massachusetts Paid Family and Medical Leave Act, and any similar Massachusetts or other state or federal statute; *please note that this section specifically includes a waiver and release of Claims that Employee has or may have regarding payments or amounts covered by the Massachusetts Wage Act or the Massachusetts Minimum Fair Wages Act, including hourly wages, salary, overtime, minimum wages, commissions, vacation pay, holiday pay, sick leave pay, dismissal pay, bonus pay or severance Pay;* (ii) Claims under any Massachusetts or any other state or federal common law theory, including wrongful discharge, retaliation, breach of express or implied contract, promissory estoppel, unjust enrichment, breach of a covenant of good faith and fair dealing, violation of public policy, defamation, interference with contractual or business relations, intentional or negligent infliction of emotional distress, invasion of privacy, misrepresentation, deceit, fraud or negligence or any claim to attorneys' fees under any applicable statute or common law theory of recovery; and (iii) any other Claim arising under other state or federal statute or common law.

(b) Company Release. The Company fully releases and discharges the Employee of and from any Claim that is known or reasonably should have been known by the Company as of the Separation Date and that concerns, relates to or arises out of any alleged action, inaction or circumstance existing through the date that the Employee signs this Agreement. Without limiting the generality of the foregoing, the Company specifically waives and releases the Employee from all waivable Claims that are known or reasonably should have been known by the Company as of the Separation Date that relate to Employee's employment relationship with the Company and any circumstances or actions related thereto.

(c) Release Limitation. Notwithstanding the foregoing, this Section 9 does not: (i) release a Party from any obligation expressly set forth in this Agreement; (ii) waive or release any legal claims which a Party may not waive or release by law, including, but not limited to, under workers' compensation laws or unemployment benefits statutes; (iii) prohibit a Party from challenging the validity of this release under federal law, or from communicating, filing a charge with, or participating in an investigation or proceeding conducted by the Equal Employment Opportunity Commission or a state or local equivalent (including the Massachusetts Commission Against Discrimination), the National Labor Relations Board, the Occupational Safety and Health Administration, the Securities and Exchange Commission, or any other U.S. federal, state or local governmental agency or commission (each a "Government Agency"); or (iv) prohibit a Party from providing documents or information to a Government Agency. The Employee's waiver and release, however, are intended to be a complete bar to any recovery or personal benefit by or to the Employee with respect to any claim (except those which cannot be released under law), including those raised through a charge with a Government Agency. Accordingly, nothing in this Section 9 shall be deemed to limit the Company's right to seek immediate dismissal of such charge or complaint on the basis that the Employee's signing of this Agreement constitutes a full release of any individual rights under the federal discrimination laws, or to seek restitution to the extent permitted by law of the economic benefits provided to the Employee under this Agreement in the event the Employee successfully challenges the validity of this release and prevail in any claim under the federal discrimination laws.

10. ADEA/OWBPA Review and Revocation Period. The Employee and the Company acknowledge that the Employee is over the age of 40 and that the Employee, therefore, has specific rights under the Age Discrimination in Employment Act ("ADEA") and the Older Workers Benefit Protection Act ("OWBPA"), which prohibit discrimination on the basis of age. It is the Company's desire and intent to make certain that the Employee

fully understands the provisions and effects of this Agreement, which includes a release of claims under the ADEA and OWBPA. To that end, the Employee has been encouraged and given the opportunity to consult with legal counsel for the purpose of reviewing the terms of this Agreement. Consistent with the provisions of the ADEA and OWBPA, the Company also is providing the Employee with **twenty one (21) days** in which to consider and accept the terms of this Agreement by signing below and returning it to Elisabeth Colunio, VP Human Resource, Sensei Biotherapeutics, Inc., 451 D Street, Boston, MA 02210. The Employee agrees that any modifications, material or otherwise, made to this Agreement do not and shall not restart or affect in any manner whatsoever, the original 21-day review period. The Employee may rescind the Employee's assent to this Agreement if, within **seven (7) days** after the Employee signs this Agreement, the Employee delivers by hand or send by mail (certified, return receipt and postmarked within such 7 day period) a notice of rescission to Ms. Colunio at the above-referenced address.

11. **Taxes.** The Severance Benefit shall be reduced by all applicable federal, state, local and other deductions, taxes, and withholdings. The Company does not guarantee the tax treatment or consequences associated with any payment or benefit under this Agreement, including under Section 409A of the Internal Revenue Code of 1986 ("Code Section 409A").

12. **Knowing and Voluntary Agreement.** The Employee and the Company each acknowledge and agree that: (a) the Employee and the Company each have been afforded sufficient time to understand the terms of this Agreement; (b) the Employee's and the Company's agreements and obligations hereunder are made voluntarily, knowingly and without duress; and (c) the other party has not made representations inconsistent with this Agreement.

13. **General.** This Agreement, along with any agreement expressly incorporated by reference herein (including the Covenants Agreement, as modified herein) supersedes any and all prior or contemporaneous agreements between the Employee and the Company, and sets forth the entire agreement between the Employee and the Company. No modifications shall be deemed valid unless reduced to writing and signed by the parties hereto. The failure of the Company to seek enforcement of any provision of this Agreement shall not be construed as a waiver of such provision or the Company's right to seek enforcement of such provision in the future. The provisions of this Agreement are severable, and if for any reason any part hereof shall be found to be unenforceable, the remaining provisions shall be enforced in full. This Agreement shall be deemed to have been made in Massachusetts, shall take effect as an instrument under seal within Massachusetts, and shall be governed by and construed in accordance with the laws of Massachusetts, without giving effect to conflict of law principles. The Parties agree that any action, claim or counterclaim relating to the terms of this Agreement shall be commenced in Massachusetts in a court of competent jurisdiction, and that venue for such actions shall lie exclusively in Massachusetts. Both Parties hereby waive and renounce in advance any right to a trial by jury in connection with such legal action. This Agreement may be signed on one or more copies, each of which when signed shall be deemed to be an original, and all of which together shall constitute one and the same Agreement.

[Signature Page Follows]

If the foregoing correctly sets forth the Parties' understanding, the Employee shall sign, date and return the enclosed copy of this Agreement to Elisabeth Colunio, VP, Human Resources, within **twenty one (21)** days and, if the Employee does not rescind the Employee's acceptance of this Agreement, then this Agreement shall become effective on the **eighth (8th)** day following the date of Employee's signature below.

Marie-Louise Fjaellskog, MD, PhD

Signed Name

Marie-Louise Fjaellskog

Printed Name

Dated: 12|9|2021

Sensei Biotherapeutics, Inc.

By: DocuSigned by: John Celebi

John Celebi

President and Chief Executive Officer

Dated: 12/9/2021 | 1:54:21 PM PST

118476365v.8

EXHIBIT 1, SHEET 1
451 D Street
Boston, Massachusetts
(the "Building")

Execution Date:	January 13, 20 21
Tenant:	Sensei Biotherapeutics, Inc., a Delaware corporation
Mailing Address:	Prior to Term Commencement Date: Sensei Biotherapeutics, Inc. 1405 Research Boulevard, Suite 125 Rockville, MD 20850 Attention: Erin Colgan, VP of Finance After the Term Commencement Date: 451 D Street Boston, MA 02210 Attention: Erin Colgan, VP of Finance
Landlord:	RREF II 451D, LLC, a Delaware limited liability company
Mailing address:	c/o Related Beal Management, 177 Milk Street, Boston, Massachusetts 02109 Attn: Executive Vice President

Art. 2 Premises: Approximately 10,082 rentable square feet on the seventh (7th) floor of the Building, substantially as shown on Exhibit 2-A; provided, however, prior to the Substantial Completion Date of Landlord's Work, the Premises shall be deemed to be the Swing Premises (subject to and as more particularly set forth in Section 29.20, below).

Art. 3.1 Term Commencement Date: The later of (a) the Swing Premises Substantial Completion Date (as defined in Section 29.20, below), or (b) March 1, 2021.

Art 3.1 Anticipated Commencement Date: April 1, 2021.

Art 3.1 Yearly Rent Commencement Date: The Substantial Completion Date of Landlord's Work, subject to Section 4.2, below.

Art 3.1 Anticipated Yearly Rent Commencement Date: June 1, 2021.

Art 3.2 Term or original Term: Five (5) Lease Years, commencing on the Term Commencement Date and expiring on the last day of the fifth (5th) Lease Year.

Art. 3.2 Lease Year: Each successive 12-month period included in whole or in part in the Term of this Lease. The first (1st) Lease Year shall be the twelve (12) month period, commencing on the Yearly Rent Commencement Date, provided, however, that if the Yearly Rent Commencement Date shall occur on a date other than the first day of a calendar month, then (i) the first (1st) Lease Year shall include the period from the first anniversary of the Yearly Rent Commencement Date through the end of such calendar month and (ii) the Yearly Rent for such Lease Year shall be increased proportionately to the greater length of such Lease Year.

Art. 5 Use of Premises: General office, and research and development purposes (including laboratory use), and for no other purposes, subject to Article 5 below and the other terms and conditions of this Lease.

Art. 6 Yearly Rent / Monthly Rent:

Period	**Yearly Rent**	**Monthly Rent**
First (1st) Lease Year	$ 826,724.00	$ 68,893.67
Second (2nd) Lease Year	$ 851,525.72	$ 70,960.48
Third (3rd) Lease Year	$ 877,033.18	$ 73,086.10
Fourth (4th) Lease Year	$ 903,347.20	$ 75,278.93
Fifth (5th) Lease Year	$ 930,467.78	$ 77,538.98

Art. 6 Rent Payment Address:

By Wire DACA (preferred):
Wells Fargo Bank, N.A.
San Francisco, CA 94105
ABA #XXXXX
Account Name: RREF II 451D LLC
Account #XXXXXX
Federal Tax ID. No. for RREF II 451D LLC is 35-2533014

By Mail:

RREF II 451D, LLC
P.O. Box 787482
Philadelphia, PA 19178-7482

By Overnight Delivery:
RREF II 451D, LLC
Lockbox – 787482
Wells Fargo Bank
MAC Y1372-045
401 Market Street
Philadelphia, PA 19106

Art. 7 Total Rentable Area: 10,082 rentable square feet (approximate), subject to Articles 2 and 7, below.

Total Rentable Area of Building: 460,793 rentable square feet (approximate), subject to Articles 2 and 7, below.

Art. 8 Electric current will be furnished to Tenant pursuant to Section 8.1, below.

Art. 9 Operating Costs and Taxes based on:

Tenant's Proportionate Share: Two and 30/100 percent (2.30%), which is the percentage obtained by dividing the Total Rentable Area of the Premises by 95% of the Total Rentable Area of the Building, subject to adjustment as provided in Article 7 below.

Art. 29.3 Broker: CBRE

Art. 29.13 Letter of Credit Amount: $465,233.88, subject to Section 29.13 below.

Art. 29.14 Parking Spaces: Up to six (6) parking spaces in the surface parking lot serving the Building, subject to Section 29.14, below.

Art 2.15 Option to Extend Term: One (1) period of five (5) years, subject to Section 29.16, below.

THIS LEASE made and entered into on the Execution Date as stated in Exhibit 1 and between the Landlord and the Tenant.

Landlord does hereby demise and lease to Tenant, and Tenant does hereby hire and take from Landlord, the premises described in Section 2.1 below ("Premises"), upon and subject to the covenants, agreements, terms**,** provisions and conditions of this Lease for the term hereinafter stated:

1. REFERENCE DATA

Each reference in this Lease to any of the terms and titles contained in any Exhibit attached to this Lease shall be deemed and construed to incorporate the data stated under that term or title in such Exhibit.

2. DESCRIPTION OF PREMISES

2.1 **Premises.** The Premises are that portion of the Building as described in Exhibit 1 (as the same may from time to time be constituted after changes therein, additions thereto and eliminations therefrom pursuant to rights of Landlord hereinafter reserved) and is hereinafter referred to as the "Building", substantially as shown hatched or outlined on the Lease Plan (Exhibit 2-A) hereto attached and incorporated by reference as a part hereof.

2.2 **Appurtenant Rights.**

(a) General. Tenant shall have, as appurtenant to the Premises, rights to use in common, with others entitled thereto, subject to the Rules and Regulations (as defined below) from time to time made by Landlord of which Tenant is given notice; (i) the common lobbies, hallways, stairways and elevators of the Building, serving the Premises in common with others; (ii) common walkways necessary for access to the Building; (iii) if the Premises include less than the entire rentable area of any floor, the common toilets and other common facilities of such floor; (iv) twenty-four hour, seven days a week access to the common loading dock facilities serving the Building; provided, however, that Tenant's use of the loading dock must be in compliance with all applicable Rules and Regulations, Legal Requirements (as defined below), and rights of others pursuant to easements of record; and (v) subject to reasonable notice and scheduling and during business hours, access to and use of the Building's freight elevator; provided, however, that Tenant's use of the freight elevator must be in compliance with all applicable Rules and Regulations, laws, regulations and ordinances; and no other appurtenant rights or easements, except as expressly provided in this Lease. Notwithstanding anything to the contrary herein or in the Lease contained, Landlord has no obligation to allow any particular telecommunication service provider to have access to the Building or to Tenant's Premises. If Landlord permits such access, Landlord may condition such access upon the payment to Landlord by the service provider of fees assessed by Landlord in its sole discretion.

(b) Common Laboratory Facilities. Tenant shall also have the benefit, in common with others so entitled thereto from time to time, of certain shared laboratory facilities as provided herein (collectively, the "Common Laboratory Facilities") the location of which are shown on Exhibit 6 and that portion of the areas of such facilities allocable to Tenant, as set forth below, shall be included in Tenant's Proportionate Share calculation by inclusion of such area in the rentable area of the Premises:

(i) The laboratory standby generator room serving the Building from which Tenant shall have the right to access up to five (5) watts of emergency generator capacity per rentable square foot of that portion of the Premises dedicated to actual laboratory use (not to exceed 50% of the rentable area of the Premises) from an emergency panel on the sixth (6th) floor of the Building to which the Premises is or will be connected as part of Landlord's Delivery Work. Landlord shall have the right to reasonably and equitably limit and allocate Tenant's utilization of and access to the emergency generator in proportion to the Total Rentable Area of the Premises bears to the Total Rentable Area of all the premises in the Building which have a portion dedicated to laboratory use, from time to time, along with the right to use and reserve certain generator capacity for present and future Building operations;

(ii) The laboratory electrical room located on the eighth (8th) floor of the Building at a location designated and determined by Landlord for Tenant's connections and which Tenant shall have the right to access, solely for the purposes of installing and maintaining electrical connections serving

the portion of the Premises dedicated to actual laboratory use (not to exceed 50% of the Premises); and

(iii) Tenant shall have the right to use an acid neutralization system ("Neutralization System") to be located in an area in the basement of the Building designated by Landlord, from time to time, initially as approximately shown on Exhibit 6. Landlord shall install (in accordance with Section 4.2, below), maintain and service the Neutralization System in accordance with all applicable Legal Requirements and subject to Section 8.8, below, with Tenant to pay its proportionate share thereof pursuant to Section 9.3, below. Tenant's use of the Neutralization System shall be in compliance with best industry, laboratory and scientific standards and practices and shall be subject to the terms of this Lease.

Tenant acknowledges and agrees that Tenant's rights hereunder are non-exclusive and shall be subject to all of the terms and conditions of this Lease, including but not limited to Articles 4, 5, 11 and 12. Landlord shall have the right to reasonably and equitably limit and allocate Tenant's utilization of and access to th**e** available Common Laboratory Facilities, from time to time, in proportion to the Total Rentable Area of the Premises dedicated to laboratory use (not to exceed 60% of the Premises) bears to the Total Rentable Area of all the premises in the Building which have a portion dedicated to laboratory use, from time to time, and, further, Tenant acknowledges that Landlord has the right to use and reserve certain areas and capacities making up the Common Laboratory Facilities for present and future Building operations and other uses and operations**,** subject to Tenant's right to use such Common Laboratory Facilities as expressly set forth herein.

(c) Tenant shall pay for its use of the Common Laboratory Facilities, including, without limitation, utility usage therefor, in accordance with the provisions of Article 9 of this Lease relating to Tenant's Operating Expense Share.

2.3 Exclusions and Reservations. All the perimeter walls of the Premises except the inner surfaces thereof, any balconies (except to the extent same are shown as part of the Premises on the Lease Plan (Exhibit 2)), any terraces or roofs adjacent to the Premises, and any space in or adjacent to the Premises used for shafts, stacks, pipes, conduits, wires and appurtenant fixtures, fan rooms, ducts, electric or other utilities, sinks or other Building facilities, and the use thereof, as well as the right of access through the Premises for the purposes of operation, maintenance, decoration and repair, are expressly excluded from the Premises and reserved to Landlord.

2.4 **Roof License.**

(a) Tenant shall have the non-exclusive license, to install, operate and maintain, all in good order and repair, certain supplemental HVAC and other equipment in a portion or of the roof ("Roof") of the Building (collectively, "Roof-top Equipment"), as provided herein. Tenant's use, installation and operation of the Roof-top Equipment shall be in compliance with all of the terms and conditions of this Lease, including but not limited to Article 12, and all of the specifications relating thereto as reasonably promulgated by and amended by Landlord from time to time that are not inconsistent with the express rights granted Tenant hereunder (the "Specifications"). Tenant acknowledges and agrees that such license is non-exclusive and, further, that Tenant shall continue to be obligated to perform all of its obligations under the Lease if Tenant is unable to use such the Roof-top Equipment. Tenant's ability to use the Roof and shaft space for its Roof-top Equipment provided hereunder shall be in conjunction with Landlord and other Building tenants and occupants and shall be equitably and proportionately distributed, from time to time, among Landlord and such other tenants and occupants (and Roof or other Building utility space may be reserved) by Landlord in connection with such distribution. Landlord shall use commercially reasonable efforts to accommodate Tenant's Roof-top Equipment requirements as provided herein, but Landlord shall have the right to reasonably limit and allocate Tenant's utilization of available Roof and/or other Building utility space as aforesaid, and, further, Tenant acknowledges that Landlord has the right to use and reserve Roof-top(s) and other Building utility space for future Building operations and other uses and operations (provided, however, that once roof-top space has been allocated to Tenant, the size of such allocation shall not be reduced except as otherwise expressly provided herein). Pursuant to the terms and conditions hereof, Tenant shall have the right to use the Roof provided the same shall be delivered in "as-is", "where-is" condition without any representation or warranty, express or implied, and without any obligation for Landlord to perform any work in connection with Tenant's use thereof or provide services for the same, except as otherwise expressly set forth herein.

(b) The Roof-top Equipment installed by or on behalf of Tenant shall be installed in the locations selected by Landlord, in its sole but reasonable discretion, and Landlord shall have the right, to be

exercised in good faith, to require Tenant to relocate the Roof-top Equipment, from time to time, at Tenant's sole cost and expense (if due to Landlord's repairs and maintenance**,** subject to this Subsection (b) and Subsection (d), below**),** to otherwise at Landlord's cost and expense) to an alternative location on the Roof or in the Building selected by Landlord in its reasonable discretion. Landlord and Tenant shall cooperate in good faith to allocate Roof or other Building utility space provided to Tenant in such a way so as to minimize the likelihood of any such relocation to certain Roof-top Equipment, which cooperation may include indicating, upon review of Tenant's Roof-top Equipment plans which equipment should not need to be relocated in the event of a proportionate re-allocation Landlord makes no representation or warranty to Tenant that the Roof or other Building utility space will be satisfactory to Tenant, provided Landlord shall use commercially reasonable efforts to assist Tenant to locate a satisfactory location in the Building utility space and on the Roof. Prior to installing or replacing any Roof-top Equipment, Tenant shall submit to Landlord plans and specifications for the installation thereof prepared by a licensed engineer reasonably satisfactory to Landlord (the "Roof Plans") which Roof Plans shall be subject to the prior reasonable approval of Landlord (including, but not limited to, location, size, design, and method of attachment to the Building of the Roof-top Equipment shown thereon). The Roof Plans shall be consistent with the Specifications, any applicable Rules and Regulations, and otherwise reasonably satisfactory to Landlord, and shall show the location of the installations of the Roof-top Equipment, any structural requirements and installations, and all related equipment and components on the Roof or Building utility space, the location and type of all piping, conduit, wiring, cabling, the manner in which same will be placed in or on and fastened to the Roof or Building utility space and any other information requested by Landlord, in Landlord's reasonable discretion. Landlord shall have the right to require that any Roof-top Equipment not be visible in a material manner from any location on the ground in the immediate vicinity of the Building and/or that all such Roof-top Equipment be screened and sound attenuated in a manner satisfactory to Landlord, in each case in Landlord's reasonable discretion and as may be required by applicable legal requirements and that all Roof-top Equipment be installed in such a way so as to allow maintenance and repairs to the Roof (or other Building utility space) from time to time, all in Landlord's reasonable discretion. Landlord shall have the right to employ an engineer or other consultant to review the Roof Plans and the reasonable, actual out-of-pocket cost of such engineer or consultant shall be paid by Tenant to Landlord within thirty (30) days after Landlord's bill to Tenant therefor in reasonable detail. After Landlord has approved the Roof Plans and prior to installing any Roof-top Equipment, and any related equipment, wiring, conduit, piping, or cabling, Tenant shall obtain and provide to Landlord: (i) all required governmental and quasi-governmental permits, licenses, special zoning variances and authorizations, as required by applicable laws, rules, ordinances, regulations and restrictions, all of which Tenant shall obtain at its own cost and expense (but with Landlord's reasonable cooperation as provided in Article 12); and (ii) a policy or certificate of insurance evidencing such insurance coverage as may be reasonably required by Landlord. Any alteration or modification of the Roof-top Equipment or any associated piping, conduit, wiring, cabling, equipment after the Roof Plans have been approved shall require Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed. Landlord makes no representation or warranty that Tenant will be permitted under applicable law to install the Roof-top Equipment on the Roof or Building utility space.

(c) Installation and maintenance of the Roof-top Equipment or any associated structural work, piping, conduit, wiring, cabling, and equipment shall be performed solely by contractors approved by Landlord, in its reasonable discretion. Tenant acknowledges and agrees that the installation of any Roof-top Equipment shall not be tied to or delay the Term Commencement Date or the Rent Commencement Date(s). Landlord may require Tenant to use a roofing contractor selected by Landlord to perform any work that could damage, penetrate or alter the Roof and an electrician selected by Landlord to install any associated piping, conduit, wiring, cabling, equipment on the Roof or in the Building. Landlord may require anyone going on the Roof to execute in advance a liability waiver reasonably satisfactory to Landlord. Tenant shall bear all costs and expenses incurred in connection with the installation, operation, maintenance, repair and/or removal of the Roof-top Equipment and Tenant agrees that Landlord shall not be responsible for, and, to the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Section 15 and Article 19, Tenant shall release, defend, indemnify and save Landlord harmless against and from any liability, loss, cost, expense, injury, damage, claim or suit resulting directly or indirectly from the aforesaid installations, use of the Roof and the use, operation and/or removal of any of the Roof-top Equipment, and this indemnity and release shall survive the termination of this Lease and Tenant acknowledges and agrees that the foregoing limitations and/or restrictions shall not give rise to any right to terminate this Lease or any claim of breach of Landlord under this Lease or any claim for damage**s** against Landlord or Landlord's Agents at law or equity, including injunctive relief.

(d) Tenant acknowledges that Landlord may decide, in its reasonable discretion, from time to time, to repair or replace the Roof (hereinafter "Roof Repairs"). If Landlord elects to make Roof Repairs that will in Landlord's good faith determination require Tenant to temporarily relocate its Roof-top Equipment on the Roof, Tenant shall, upon Landlord's request and at Tenant's sole cost and expense, temporarily relocate the Roof-top

Equipment so that the Roof Repairs may be completed; Landlord and Tenant shall use good faith efforts to cooperate in connection with such temporary relocation in order to minimize or mitigate the effect thereof on Tenant's business operations. The cost of removing and reinstalling same shall be paid by Tenant. Landlord shall not be liable to Tenant for any losses, liability, injury, damages, claim, suit, lost profits or other costs or expenses of any kind whatsoever incurred by Tenant, or any invitee, licensee or agent of Tenant as the result of the Roof Repairs. Notwithstanding the foregoing, to the extent Tenant intends to place any Roof-top Equipment on the Roof, Tenant is encouraged to design, install and maintain the Roof-top Equipment in a manner that allows for Landlord to conduct Roof Repairs without any removal thereof being required (e.g., using adequately framed, reinforced, sealed and elevated dunnage, curbing and/or roof framing) and Landlord shall reasonably cooperate (at no additional cost or liability) with Tenant to accomplish this during the review and approval of Tenant's plans therefor, if applicable.

(e) On the termination or expiration of the Lease, Tenant shall remove the Roof-top Equipment and all associated conduit, wiring, cabling, equipment, unless Tenant, subject to Landlord's prior written approval, not to be unreasonably withheld, arranges for another tenant or occupant of the Building to agree to use such equipment and assume Tenant's obligations hereunder in writing reasonably satisfactory to Landlord, and repair any damages caused thereby, at Tenant's sole cost and expense. If Tenant does not remove same on or before the date this Lease terminates or expires, Tenant hereby authorizes Landlord to remove and dispose of same and associated conduit, wiring, cabling, equipment, and Tenant shall promptly reimburse Landlord for the costs and expenses it incurs in removing and disposing of same and repairing any damages caused thereby. Following the expiration or other termination of the Lease, Tenant agrees that Landlord may dispose of the Roof-top Equipment and any associated conduit, wiring, cabling, and equipment in any manner selected by Landlord.

(f) Tenant's right to operate and maintain the Roof-top Equipment hereunder shall automatically expire and terminate on the date that the Term of the Lease expires or is otherwise terminated. This right to operate and maintain any Roof-top Equipment shall be suspended, at Landlord's option, if any of the following continue for more than five (5) business days after written notice from Landlord to Tenant (or such longer period as is reasonable under the circumstances and proportionate to the interference or damage or interference being caused and so long as Tenant is diligently pursuing a cure): (a) the Roof-top Equipment is causing physical damage to the Building or the Roof, (b) the Roof-top Equipment is interfering with the normal or customary transmission or receipt of signals from or to the Building, or (c) the Roof-top Equipment is causing Landlord to be in violation any local, state or federal law, regulation or ordinance; provided, Tenant shall have the right to remedy any of the foregoing circumstances to ensure the cessation of damage, interference, or violation, as the case may be, to Landlord's reasonable satisfaction and thereupon Tenant may resume such use. Notwithstanding the foregoing, Landlord may suspend such right prior to the expiration of the five (5) business day period (as extended) but after notice (which may be oral) to Tenant under any of the following circumstances: (x) if necessary to prevent civil or criminal liability of in connection therewith; (y) if necessary to prevent an imminent and material interference of the conduct of business in the Building; or (z) if necessary to prevent injury to persons or imminent and material damage to the Building, Roof, other Building utility space or other property therein (which shall include but not be limited to damage to or leaking of the roof membrane).

(g) Maintenance, repair and replacement of any of Tenant's supplemental HVAC equipment or components (such as that serving Tenant's server room), as provided herein, either as part of Roof-top Equipment or otherwise, shall be Tenant's sole responsibility throughout the entire Term. Tenant shall enter into a regularly scheduled (not less than quarterly) preventive maintenance/service contract with an HVAC contractor reasonably approved by Landlord for the supplemental HVAC equipment and components. The maintenance and service contract must become effective within thirty (30) days of the commissioning of Tenant's supplemental HVAC, and a copy of the service contract forwarded to the Landlord upon reasonable request.

3. TERM OF LEASE

3.1 **Definitions**. As used in this Lease the words and terms which follow mean and include the following:

(a) "Anticipated Commencement Date" – As stated in Exhibit 1, above.

(b) "Term Commencement Date" – As stated in Exhibit 1, above.

(c) "Anticipated Yearly Rent Commencement Date" – As stated in Exhibit 1, above.

(d) "Yearly Rent Commencement Date" – As stated in Exhibit 1, above.

(e) "Common Areas" shall mean the common walkways, accessways, and parking facilities, located on the land shown outlined on Exhibit 3 ("Land"), which Land shall include land now or in the future leased relating to parking lot(s) serving the Building (each a "Supplemental Parking Lease" and collectively, the "Supplemental Parking Leases"), and common facilities in the Building, as the same may be changed, from time to time, including without limitation, alleys, sidewalks, lobbies, hallways, loading dock, toilets, stairways, fan rooms, utility closets, shaftways, street entrances, elevators, wires, conduits, meters, pipes, ducts, vaults, and any other equipment, machinery, apparatus, and fixtures wherever located on the Land or in the Building or in the Premises that either (i) serve the Premises as well as other parts of the Land or Building, or (ii) serve other parts of the Land or Building but not the Premises.

3.2 **Habendum**. TO HAVE AND TO HOLD the Premises for a term of years commencing on the Term Commencement Date and ending at 11:59 p.m. on the last day of the fifth (5th) Lease Year or on such earlier date upon which said Term may expire or be terminated pursuant to any of the conditions of limitation or other provisions of this Lease or pursuant to law (which date for the expiration or termination of the term hereof will hereafter be called "Termination Date").

3.3 **Declaration Fixing Term Commencement Date.** Landlord and Tenant agree to execute a supplemental agreement confirming the actual Term Commencement Date, Yearly Rent Commencement Date and Termination Date, once same are determined, in the form set forth at Exhibit 4 or as otherwise may be required by Landlord. Tenant agrees not to record the within Lease, but, if required by applicable law in order to protect Tenant's interest in the Premises, each party hereto agrees, on the request of the other, to execute a so-called memorandum of lease or short form lease in recordable form and complying with applicable law and reasonably satisfactory to Landlord's attorneys. In no event shall such document set forth the rent or other charges payable by Tenant under this Lease; and any such document shall expressly state that it is executed pursuant to the provisions contained in this Lease and is not intended to vary the terms and conditions of this Lease. If this Lease is terminated before the Term expires, then upon Landlord's request the parties shall execute, deliver and record an instrument acknowledging such fact and the date of termination of this Lease and, upon and as of the recording of a memorandum of lease or short form lease, Tenant hereby appoints Landlord its attorney-in-fact in its name and behalf to execute a recordable termination thereof if Tenant shall fail to execute and deliver such instrument after Landlord's request therefor within ten (10) days.

4. READINESS FOR OCCUPANCY; LANDLORD'S WORK; TENANT'S WORK

4.1 **Condition of Premises.** Subject to Landlord's obligation to complete Landlord's Work (as defined below) and Landlord's maintenance and repair obligations hereunder, Tenant accepts the Premises, the Building and the Land in their present "as is" condition, without representation or warranty, express or implied, in fact or in law, by Landlord and without recourse to Landlord as to the nature, condition or usability thereof; and Tenant agrees that, except for Landlord's Work, Landlord has no work to perform in or on the Premises to prepare the Premises for Tenant's use and occupancy, and that any and all work to be done in or on the Premises will be performed by Tenant at Tenant's sole cost and expense in accordance with the terms of this Lease.

4.2 **Landlord's Work.**

(a) Landlord shall deliver the Premises to Tenant with the work shown on the construction drawings and plans referenced on Exhibit 7-A attached hereto (the "Construction Plans") Substantially Complete (as defined below), and with all Building systems serving the Premises, including electrical, life safety, heating/cooling, and plumbing systems serving the Premises in good working condition, order and repair (collectively, "Landlord's Work"), at Landlord's sole cost and expense. Tenant acknowledges and agrees that it has reviewed and has accepted the Construction Plans. Landlord reserves the right to unilaterally make changes and substitutions to the Construction Plans in connection with the construction of Landlord's Work, provided the same do not materially adversely modify the Construction Plans (eg., like kind substitutions, etc.). Tenant agrees to not unreasonably withhold or delay its consent to any changes to the Construction Plans to the extent required to (i) comply with

applicable Legal Requirements, (ii) to obtain or to comply with any required permit for Landlord's Work, (iii) to make reasonable adjustments for field deviations, or conditions encountered during the construction of Landlord's Work, or (iv) to account for long-lead time items, availability, shortages, labor issues, and the like. Landlord's Work shall not include, without limitation, Tenant's furniture, trade fixtures, equipment (excluding that equipment expressly and specifically included in Landlord's Work), personal property, data and communications equipment and cabling and/or any other Tenant's Work (as defined below), and shall be limited to construction as generally laid out and specified on the Construction Plans.

(b) Tenant shall have the right to request an upgrade or change to certain components of Landlord's Work, subject to Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed; provided, however, it shall not be unreasonable for Landlord to deny or condition such approval in the event that any such Tenant request shall result in a Material Change or, in Landlord's good faith belief, impede, delay or adversely impact the cost, timing, scheduling or delivery of Landlord's

Work (including, without limitation, delays resulting in the need for restaging, remobilization or the addition of additional contract costs), except to the extent expressly provided herein. If Landlord approves such request, then before commencing work on such requested upgrades, Landlord will submit to Tenant written estimates of the cost thereof (inclusive of any applicable fees related thereto, which may include, without limitation, construction management fees, general contractor's fees or increase in general conditions), and any delay in the Yearly Rent Commencement Date or in the Substantial Completion of any component of Landlord's Work or in the time in performing Landlord's Work resulting therefrom. If Tenant shall fail to approve such estimates within five (5) business days after submission to Tenant, the request shall be deemed withdrawn by Tenant and Landlord shall not be required to proceed with such upgrade or change. If Tenant approves such estimates, Tenant shall pay Landlord such amount, as Additional Rent pursuant to the Lease, within thirty (30) days after receipt by Tenant of Landlord's invoice therefor. Tenant shall have the option of requesting that Landlord finance a portion of such costs up to a maximum of $100,820.00 ($10.00 per rentable square foot of the Premises) (the "Supplemental Allowance") by written notice to Landlord at the time Tenant is required to pay Landlord therefor; which Supplemental Allowance shall be repaid from Tenant to Landlord as though the Supplemental Allowance had been loaned to Tenant on the Term Commencement Date, bearing interest at the annual rate of seven and one-half percent (7.5%), with such loaned amount to be repaid in equal monthly installments commencing on the Yearly Rent Commencement Date in amounts sufficient to fully amortize such loaned amount on the last day of the fifth (5th) Lease Year. If any such Tenant's proposed request increases the time required to complete Landlord's Work, then no such work shall commence unless Tenant agrees that the Substantial Completion of Landlord's Work shall be deemed to have occurred as of the date Substantial Completion would have otherwise been achieved, but for Tenant's request (and the Yearly Rent Commencement Date adjusted accordingly). In addition, if the parties determine that a delay could result as aforesaid, Tenant may request an estimate of costs necessary to accelerate completion to mitigate the impact of such delay, to the extent practical, and if accepted by Tenant in writing, Landlord shall make good faith efforts to implement such acceleration at Tenant's cost and expense. Tenant understands and agrees, however, that changes to the Construction Plans that may be needed or desired by Tenant, and or the specification by Tenant of any components or finishes that are not building standard or as expressly depicted on the Construction Plans, shall be subject to Landlord's prior written approval, which shall not be unreasonably withheld or delayed as long as same are not Material Changes. As used herein, the term "Material Changes" are (i) changes that, individually or in the aggregate, modify the scope, cost or character or any then existing permits and approvals obtained by Landlord in connection with Landlord's Work or the Building; (ii) changes that will, individually or in the aggregate, in Landlord's reasonable opinion, result in a likelihood of delay in the Substantial Completion of Landlord's Work (unless Tenant accepts the net cost and Tenant Delay as provided above); (iii) adversely affect the Building's structure, roof, exterior or mechanical, electrical, plumbing, life safety or other Building systems or architectural design or use of the Building or Premises or otherwise involve changes to structural components of the Building or involves any changes or penetrations to the floor, roof, or exterior walls; (iv) require any material modifications of the Building's mechanical, electrical, plumbing, fire or life-safety systems; (v) lessen the fair market value of the Building or the Premises or any other improvements on the property; and/or (vi) adversely affect the LEED certifiability of the Building or any improvements therein or any LEED or similar certifications previously obtained with respect to the Building or any improvements therein. Landlord agrees to use reasonable efforts and diligence to Substantially Complete Landlord's Work by the Anticipated Yearly Rent Commencement Date, subject to delays caused by event(s) of Force Majeure, but in no event shall Landlord be liable to Tenant for any failure to deliver the Premises on any specified date, nor shall such failure give rise to any default or other remedies under this Lease or at law or equity, or otherwise affect the validity of this Lease or the obligations of Tenant hereunder. Tenant shall be invited to attend Landlord's weekly construction meetings.

(c) Landlord's Work shall be deemed "Substantially Complete" on the date (the "Substantial Completion Date") as of which a completed or "signed-off" building permit or a certificate of occupancy **(temporary or permanent) permitting the use of the Premises is available from the City of Boston** Inspectional Services Department (the "Certificate of Occupancy"), subject only to the completion **of the** Punchlist Work (defined below), except to the extent that Landlord's compliance with any conditions **precedent are delayed by the acts or omissions of Tenant or its employees, agents or contractors (e.g., the** installation of Tenant's furniture) including any Tenant's Work that must be completed to obtain same.Landlord shall deliver a permanent Certificate of Occupancy to Tenant prior to the expiration of the temporary Certificate of Occupancy (or "signed-off" building permit), except to the extent that Landlord's compliance with any conditions precedent are delayed by the acts or omissions of Tenant or its employees, agents or contractors, including Tenant's Work, and provided, that if any conditions precedent thereto are in Tenant's control, Landlord shall have no obligation to comply with said conditions. Notwithstanding the foregoing, if any delay in the

Substantial Completion of the Landlord's Work by Landlord is due to Tenant Delays, then the Substantial Completion Date shall be deemed to be the date Landlord's Work (or applicable portion thereof) would have been Substantially Complete, if not for such Tenant Delays, as reasonably determined by Landlord (provided, however, Tenant shall not be entitled to take possession of the Premises until the Premises are in fact Substantially Complete). "Tenant Delays" shall mean delays caused by: (i) requirements of any plans, specifications or work requested by Tenant that require a change to, or do not conform to Landlord's Work; (ii) any Material Change in or to Landlord's Work requested by Tenant that will, individually or in the aggregate, in Landlord's reasonable opinion, result in a likelihood of delay in the Substantial Completion of Landlord's Work; or (iii) any other act or omission of Tenant or its employees, agents or contractors which actually delays Landlord from timely completing the Landlord's Work. Landlord shall provide Tenant with written notice of any such Tenant Delay within a commercially reasonable period of time following Landlord's determination of the same. Tenant shall have the benefit of all construction and other warranties obtained by Landlord in connection with Landlord's Work with respect to defects brought to Landlord's attention within the applicable warranty period and Landlord shall use commercially reasonable efforts to enforce or to assign, as the case may be, such benefit and the rights with respect thereto. With respect to any latent defects in the Landlord's Work (affecting the Premises) discovered by Tenant after the applicable warranty expiration date, Landlord shall, upon request of Tenant, assign to Tenant its rights against any contractor, subcontractor, and/or designer engaged by Landlord in connection with the Landlord's Work to the extent necessary to enable Tenant to assert claims against such contractor, subcontractor and/or designer in connection with such latent defect.

(d) Within the period of time commencing five (5) business days prior to and expiring fourteen (14) business days after the Substantial Completion Date, Landlord and Tenant shall confer and create a specific list of any remaining Punchlist Work (defined below) with respect to Landlord's Work (a "Punchlist"), which work shall be completed as set forth above. Landlord shall use commercially reasonable efforts to complete any Punchlist Work not fully completed (of which Tenant shall give Landlord notice as provided below) on the Yearly Rent Commencement Date within thirty (30) days of the later of (1) the Substantial Completion Date or (2) completion of the Punchlist (subject to Force Majeure and Tenant Delays) and Landlord shall have access to the Premises in accordance with the provisions of this Lease to complete the Punchlist Work. For purposes hereof, "Punchlist Work" is defined as minor or insubstantial incomplete work or details or defects of construction, decoration or mechanical adjustments that do not significantly affect Tenant's use of the Premises for the Permitted Use (without taking into effect Tenant's specific manner of use). Except with respect to the items contained in the Punchlist, as of the Substantial Completion Date, Tenant shall be conclusively deemed to have agreed that Landlord has performed all of its obligations under this Article 4.

(e) [Intentionally Deleted].

(f) All components of Landlord**'**s Work shall be part of the Building, except only for such unusual or non-standard items as Landlord advises Tenant in writing that same shall be removed by Tenant on the termination or expiration of this Lease. Notwithstanding the forgoing, (i) Tenant shall obtain insurance covering Landlord's Work, as set forth in Section 15.1 and (ii) articles of personal property, including but not limited to copiers and computers; unattached laboratory and specialty equipment; unattached casework; bottle washers; telecommunication equipment; cabling; and any equipment or utility connections necessary for the function of the foregoing, owned or installed by Tenant solely at its expense in the Premises ("Tenant's Removable Property") shall remain the property of Tenant and may be removed by Tenant at any time prior to the expiration or earlier termination of the Lease, subject to Tenant's repair and restoration obligations in this Lease.

4.3 **Tenant's Work**.

Tenant shall perform, at its expense, and subject to the terms and conditions of this Lease, the work and installations (other than Landlord's Work) necessary or desirable for Tenant to operate at the Premises ("Tenant's Work"), including, without limitation, Tenant's furniture, trade fixtures, equipment (excluding that equipment expressly and specifically included in Landlord's Work), personal property, data and communications equipment and cabling. Tenant shall be liable for any damages or delays caused by Tenant's activities at the Premises in connection with Tenant's Work.

4.4 **Tenant's Early Entry**. Provided that Tenant does not interfere with or delay the completion by Landlord or its agents or contractors of Landlord's Work, Tenant shall have the right to enter the Premises (a) up to fourteen (14) business days prior to the estimated Yearly Rent Commencement Date for the purpose of installing trade fixtures, equipment, tel/data, and similar items and (b) at earlier times where reasonably appropriate based on the completion stage of Landlord's Work and Tenant's reason for early access (e.g. installation of wiring prior to closure of a wall); and all such entry shall be made in compliance with all terms and conditions of this Lease (except as set forth herein) and the Rules and Regulations then in effect for the Building and shall be coordinated with Landlord's building manager. Tenant shall be liable for any damages or delays caused by Tenant's activities at the Premises. Provided that Tenant has not begun operating its business from the Premises, and subject to all of the terms and conditions of the Lease, the foregoing activity shall not constitute the delivery of possession of the Premises to Tenant and the Yearly Rent Commencement Date shall not occur as a result of said activities. Prior to entering the Premises, Tenant shall obtain all insurance it is required to obtain by the Lease and shall provide certificates of said insurance to Landlord and shall have provided the Letter of Credit to Landlord. Notwithstanding the foregoing, Landlord may deny Tenant's request for early entry under this Section 4.4 if, in Landlord's good faith belief, such early entry will impede, delay or adversely impact the cost, timing, scheduling or delivery of Landlord's Work (including, without limitation, delays resulting in the need for restaging, remobilization or the addition of additional contract costs).

5. USE OF PREMISES

5.1 **Permitted Use**. Tenant shall during the Term hereof occupy and use the Premises only for the purposes as stated in Exhibit 1 and for no other purposes. Service and utility areas (whether or not a part of the Premises) shall be used only for the particular purpose for which they were designed. Without limiting the generality of the foregoing, Tenant agrees that it shall not use the Premises or any part thereof, or permit the Premises or any part thereof, to be used for the preparation or dispensing of food, whether by vending machines (unless such vending machines are for use by Tenant's employees only and are permitted in accordance with requirements of all applicable laws) or otherwise. Notwithstanding the foregoing, but subject to the other terms and provisions of this Lease, Tenant may, with Landlord's prior written consent, which consent shall not be unreasonably withheld, install at its own cost and expense so-called hot-cold water fountains, coffee makers and so-called Dwyer refrigerator-sink- stove combinations for the preparation of beverages and foods, provided that no cooking, frying, etc., are carried on in the Premises to such extent as requires special exhaust venting, Tenant hereby acknowledging that the Building is not engineered to provide any such special venting.

5.2 **Prohibited Uses**. Notwithstanding any other provision of this Lease, Tenant shall not use, or suffer or permit the use or occupancy of, or suffer or permit anything to be done in or anything to be brought into or kept in or about the Premises or the Building or any part thereof (including, without limitation, any materials, appliances or equipment used in the construction or other preparation of the Premises and furniture and carpeting): (a) which would violate any of the covenants, agreements, terms, provisions and conditions of this Lease or the Rules and Regulations or that are otherwise applicable to or binding upon the Premises; (b) for any unlawful purposes or in any unlawful manner; (c) which, in the reasonable judgment of Landlord shall in any way (i) impair the appearance or reputation of the Building; or (ii) impair, interfere with or otherwise diminish the quality of any of the Building services or the proper and economic heating, cleaning, ventilating, air conditioning or other servicing of the Building or Premises, or with the use or occupancy of any of the other areas of the Building, or occasion discomfort,

inconvenience or annoyance, or injury or damage to any occupants of the Premises or other tenants or occupants of the Building; (iii) which is inconsistent with the maintenance of the Building as a comparable first-class life-sciences building in the Seaport District of Boston, Massachusetts (including laboratories); or (iv) which would violate any then current exclusive use or right granted by Landlord to any tenant or occupant of the Building (Landlord agreeing to provide notice of same within ten (10) business days following Tenant's written request therefor), provided however that in no event shall the original Tenant named herein or any Permitted Transferee be prohibited from using the Premises for (x) the original Tenant's normal and customary general office, research and development purposes (including laboratory use) or (y) general office, research and development purposes (including laboratory use), in either case by Landlord granting an exclusive use to a future tenant. Tenant shall not install or use any electrical or other equipment of any kind which, in the reasonable judgment of Landlord, might cause any such impairment, interference, discomfort, inconvenience, annoyance or injury.

5.3 **Licenses and Permits**. Tenant shall not cause or permit the Premises, the Building or the Land to be used in any way that violates any law, code, ordinance, restrictive covenant, encumbrance, governmental regulation, order, permit, approval, variance, covenants or restrictions of record or any provision of the Lease (each a "Legal Requirement"), annoys or interferes with the rights of tenants of the Building, or constitutes a nuisance or waste. Tenant shall obtain, maintain and pay for all licenses, consents, permits and approvals, and shall promptly take all actions necessary, to comply with all Legal Requirements (including, without limitation, the Occupational Safety and Health Act, MWRA, EH&S and lab waste management) applicable to Tenant's use of the Premises, the Building or on the Land; provided however that Landlord shall be solely responsible for any such permits as they apply to the use of the Common Laboratory Facilities in general (but not Tenant's specific use or manner of use). Tenant shall maintain in full force and effect all licenses, permits, approvals, consents, certifications or permissions to provide its services required by any authority having jurisdiction to authorize, franchise or regulate such services. Tenant shall be solely responsible for procuring and complying at all times with any and all necessary licenses, consents, permits and approvals directly or indirectly relating or incident to: the conduct of its activities on the Premises; its scientific experimentation, transportation, storage, handling, use and disposal of any chemical or radioactive or bacteriological or pathological substances or organisms or other hazardous wastes or environmentally dangerous substances or materials or medical waste or laboratory specimens. Within ten (10) days of a request by Landlord, which request shall be made not more than once during each period of twelve (12) consecutive months during the Term hereof, unless otherwise requested by any mortgagee of Landlord, Tenant shall furnish Landlord with copies of all such permits and approvals that Tenant possesses or has obtained together with a certificate certifying that such permits are all of the permits that Tenant possesses or has obtained with respect to the Premises. Tenant shall promptly give written notice to Landlord of any warnings or violations relative to the above received from any federal, state or municipal agency or by any court of law and shall promptly cure the conditions causing any such violations. Tenant shall not be deemed to be in default of its obligations under the preceding sentence to promptly cure any condition causing any such violation in the event that, in lieu of such cure, Tenant shall contest the validity of such violation by appellate or other proceedings permitted under applicable law, provided that: (a) any such contest is made reasonably and in good faith, (b) Tenant makes provisions, including, without limitation, posting bond(s) or giving other security, acceptable to Landlord to protect Landlord, the Building and the Land from any liability, costs, damages or expenses arising in connection with such violation and failure to cure, (c) Tenant shall agree to indemnify, defend (with counsel reasonably acceptable to Landlord) and hold Landlord harmless from and against any and all liability, costs, damages, or expenses arising in connection with such condition and/or violation, (d) Tenant shall promptly cure any violation in the event that its appeal of such violation is overruled or rejected, and (e) Tenant's decision to delay such cure shall not, in Landlord's sole but good faith determination, be likely to result in any actual or threatened bodily injury, property damage, or any civil or criminal liability to Landlord, any tenant or occupant of the Building or the Land, or any other person or entity.

6. RENT

During the Term of this Lease, the Yearly Rent and other charges, at the rate stated in Exhibit 1, shall be payable by Tenant to Landlord by monthly payments, as stated in Exhibit 1, in advance and without notice or demand on the first day of each month for and in respect of such month. The rent and other charges reserved and covenanted to be paid under this Lease shall commence on the Term Commencement Date, other than payments of

Yearly Rent which shall commence on the Yearly Rent Commencement Date. Notwithstanding the provisions of the next preceding sentence, Tenant shall pay the first monthly installment of rent on the execution of this Lease. If, by reason of any provisions of this Lease, the rent reserved hereunder shall commence or terminate on any day other than the first day of a calendar month, the rent for such calendar month shall be prorated. The rent and all other amounts payable to Landlord under this Lease shall be payable to Landlord, or if Landlord shall so direct in writing, to Landlord's agent or nominee, in lawful money of the United States which shall be legal tender for payment of all debts and dues, public and private, at the time of payment, at the Rent Payment Address set forth in Exhibit 1 or such place as Landlord may designate, and the rent and other charges in all circumstances shall be payable without any setoff or deduction whatsoever. Rental and any other sums due hereunder not paid on or before the date due shall bear interest for each month or fraction thereof from the due date until paid computed at the computed at the lesser of ten percent (10%) per annum or any applicable lesser maximum legally permissible rate for debts of this nature.

All fees, costs and expenses, other than Yearly Rent, which Tenant assumes or agrees to pay and any other sum payable by Tenant pursuant to this Lease, including, without limitation, Tenant's Tax Share and Tenant's Operating Expenses Share (both as hereinafter defined), shall be deemed "Additional Rent."

7. RENTABLE AREA

Total Rentable Area of the Premises and the Building are agreed to be the amounts set forth in Exhibit 1. Landlord reserves the right, throughout the Term of the Lease, to recalculate the Total Rentable Area of the Building. Landlord shall have the right to adjust the Total Rentable Area of the Premises or the Building, from time to time, based on changes to the physical size of the Building or rentable area(s) thereof in accordance with the methods of measuring rentable square feet as described in the American National Institute Publication ANSI Z65.1-1996 promulgated by the Building Owners and Managers Association. In the event such remeasurement reflects that the stated Total Rentable Area of the Premises or Building set forth herein is different from as stated in Exhibit 1, the parties hereto shall thereafter adjust the Tenant's Proportionate Share, Yearly Rent, and any other charges, expenses or benefits based thereon to reflect the correct measurement.

8. SERVICES FURNISHED BY LANDLORD

8.1 **Electric Current.**

(a) It is understood that for the electrical service (e.g., lights, plugs, equipment, convenience outlets, and heating, air-conditioning, ventilation fixtures and equipment initially installed in the Premises and all other systems exclusively serving the Premises) shall be either direct metered, separately metered, or sub or check metered. As of the Substantial Completion Date, the Premises shall be sub metered.

(b) If such electrical service is direct or separately metered, Landlord will require Tenant to contract with the company supplying electric current for the Premises and obtaining by Tenant of electric current directly from such company to be billed directly to and Tenant shall pay directly to such company, as Additional Rent hereunder, all electrical service charges before delinquency.

(c) If such electrical service is sub or check metered, Landlord shall calculate the electrical service charge based on Tenant's actual usage of electricity and Tenant shall pay same to Landlord, as Additional Rent, within thirty (30) days of billing therefor (which billing shall contain reasonable back-up or supporting material therefor). Tenant will reimburse Landlord for the cost of such electric current as measured by a separate submeter or checkmeter, as hereinafter set forth, or Landlord will require Tenant to contract with the company supplying electric current for the purchase and obtaining by Tenant of electric current directly from such company to be billed directly to, and Tenant shall pay directly to such company, as Additional Rent hereunder, all electrical service charges before delinquency. If such electrical service is sub or check metered, Landlord may elect to collect the electrical service charge due hereunder in monthly estimated payments (i.e., based upon Landlord's reasonable estimate) on account of Tenant's obligation to reimburse Landlord for electricity consumed in the Premises, due at the same time and in the same manner that it pays its monthly payments of Yearly Rent hereunder, estimated payments, in which case:

(i) Periodically after the Term Commencement Date, Landlord shall determine the actual cost of electricity consumed by Tenant in the Premises (i.e., by reading Tenant's sub-meter and by applying the applicable electric rate.) If the total of Tenant's estimated monthly payments on account of such period is less than the actual cost of electricity consumed in the Premises during such period, Tenant shall pay the difference to Landlord when billed therefor. If the total of Tenant's estimated monthly payments on account of such period is greater than the actual cost of electricity consumed in the Premises during such period, Landlord shall credit the difference against Tenant's next installment of rental or other charges due hereunder.

(ii) After each adjustment, the amount of estimated monthly payments on account of Tenant's obligation to reimburse Landlord for electricity in the Premises shall be adjusted based upon the actual cost of electricity consumed during the immediately preceding period.

(d) If Landlord is furnishing Tenant electric current hereunder, Landlord, at any time, at its option and upon not less than thirty (30) days' prior written notice to Tenant, may discontinue such furnishing of electric current to the Premises; and in such case Tenant shall contract with the company supplying electric current for the purchase and obtaining by Tenant of electric current directly from such company. In the event Tenant itself contracts for electricity with the supplier, pursuant to Landlord's option as above stated, Landlord shall (i) permit its risers, conduits and feeders to the extent available, suitable and safely capable, to be used for the purpose of enabling Tenant to purchase and obtain electric current directly from such company, (ii) without cost or charge to Tenant, make such alterations and additions to the electrical equipment and/or appliances in the Building as such company shall specify for the purpose of enabling Tenant to purchase and obtain electric current directly from such company, and (iii) at Landlord's expense, furnish and install in or near the Premises, and maintain, any necessary metering equipment used in connection with measuring Tenant's consumption of electric current which maintenance costs may be included in Operating Costs (as and to the extent provided herein) and provided there is a third (3rd) party charge for reading the meter which charge is included in the billing therefor.

(e) Tenant shall require electric current for use in the Premises in excess of such reasonable quantity to be furnished for such use as hereinabove provided and if (i) in Landlord's reasonable judgment, Landlord's facilities are inadequate for such excess requirements or (ii) such excess use shall result in an additional burden on the Building air conditioning system and additional cost to Landlord on account thereof, then, as the case may be, (x) Landlord, upon written request and at the sole cost and expense of Tenant, will furnish and install such additional wire, conduits, feeders, switchboards and appurtenances as reasonably may be required to supply such additional requirements of Tenant if current therefor be available to Landlord, provided that the same shall be permitted by applicable laws and insurance regulations and shall not cause damage to the Building or the Premises or cause or create a dangerous or hazardous condition or entail excessive or unreasonable alterations or repairs or interfere with or disturb other tenants or occupants of the Building or (y) Tenant shall reimburse Landlord for such additional cost, as aforesaid. Tenant acknowledges that it has been provided with an opportunity to confirm that the electric current serving the Premises will be adequate to supply its proposed permitted uses of the Premises.

(f) Landlord, at Tenet's expense and upon Tenant's request, shall purchase and install all replacement lamps of types generally commercially available (including, but not limited to, incandescent and fluorescent, but excluding specialty lamps and fixtures) used in the ancillary/accessory office portion(s) of the Premises (excluding laboratory portions thereof). Landlord shall have the right to elect, upon reasonable written notice, to cease the purchase and installation of lamps hereunder.

(g) To the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186, §15), but subject to Tenant's insurance requirements hereunder and Articles 15 and 19, Landlord shall not in any way be liable or responsible to Tenant for any loss, damage or expense which Tenant may sustain or incur if the quantity, character, or supply of electrical energy is changed or is no longer available or suitable for Tenant's requirements, provided that the foregoing shall not be construed to release Landlord from its maintenance and repair obligations under this Lease.

(h) Tenant agrees that it will not make any material alteration or material addition to the electrical equipment and/or appliances in the Premises without the prior written consent of Landlord in each instance

first obtained, which consent will not be unreasonably withheld, and using contractor(s) approved by Landlord, and will promptly advise Landlord of any other alteration or addition to such electrical equipment and/or appliances.

8.2 **Water.** Landlord shall furnish hot and cold water for ordinary use for cleaning, toilet, lavatory and drinking purposes for restrooms and facilities Common Areas. In addition, hot and cold water for ordinary use for cleaning, toilet, lavatory and drinking purposes for restrooms and facilities and laboratory use shall be included in the Tenant Improvement Work as and to the extent set forth in the Plans. If Tenant requires, uses or consumes water for any purpose other than for the aforementioned purposes in the Premises, Landlord may (a) assess a reasonable charge for the additional water so used or consumed by Tenant or (b) install a water meter and thereby measure Tenant's water consumption for all purposes. In the latter event, Tenant shall pay the cost of the meter and the cost of installation thereof and shall keep said meter and installation equipment in good working order and repair. Tenant agrees to pay for water consumed, as shown on said meter, together with the sewer charge based on said meter charges, as and when bills are rendered, and on default in making such payment Landlord may pay such charges and collect the same from Tenant. Subject to the specific allocation(s) of responsibilities relating thereto relating to Landlord's Work and Tenant's Work, all piping and other equipment and facilities for use of water outside the building core will, at Landlord's option, be installed and maintained by Landlord at Tenant's sole cost and expense.

8.3 **Elevators, Heat and Cleaning.** Landlord shall: (a) provide necessary elevator facilities (which may be manually or automatically operated, either or both, as Landlord may from time to time elect) on Mondays through Fridays, excepting Federal, Massachusetts and City of Boston legal holidays, from 8:00 a.m. to 6:00 p.m. and on Saturdays, excepting Federal, Massachusetts and City of Boston legal holidays, from 8:00 a.m. to 1:00 p.m. (called "business days") and have
one (1) elevator in operating available for Tenant's use, non-exclusively, together with others having business in the Building, at all other times; (b) furnish heat, air conditioning and ventilation (substantially equivalent to that being furnished in comparably aged similarly equipped office and research and development buildings in the same city) to the interior common areas of the Building during the normal heating season on business days; and (c) cause the common areas of the Building to be cleaned on Monday through Friday (excepting Massachusetts or City of Boston legal holidays) in a manner consistent with cleaning standards generally prevailing in the comparable office/life science buildings in the City of Boston. All costs and expenses incurred by Landlord in connection with foregoing services shall be included as part of the Operating Costs (as defined below). Tenant shall be responsible, at its sole cost and expense, for providing cleaning and janitorial services to the Premises in a neat and first-class manner consistent with the cleaning standards generally prevailing in the comparable buildings in the City of Boston or as otherwise reasonably established by Landlord in writing from time to time using an insured contractor or contractors selected by Tenant and reasonably approved in writing by Landlord and such provider shall not interfere with the use and operation of the Building or Land by Landlord or any other tenant or occupant thereof. Tenant shall also cause all extermination of vermin in the Premises to be performed by companies reasonably approved by Landlord in writing and shall contract and utilize pest extermination services for the Premises as reasonably necessary or as requested by Landlord.

8,4 **Air Conditioning.** As part of Landlord**'**s Work, Landlord shall provide and deliver those items (e.g., Building infrastructure and capacities) shown on the Construction Plans attached hereto as Exhibit 7-A, including but not limited to make up air, condenser water system, and exhaust, based on the laboratory/office split of the Premises as shown therein. Tenant acknowledges that Landlord shall have no obligation to provide any heat and/or air conditioning for the Premises except as expressly provided herein. Tenant agrees to lower and close the blinds or drapes when necessary because of the sun's position, whenever the air conditioning system is in operation, by using good faith efforts to cause its employees to so comply with such requirement, and to cooperate fully with Landlord with regard to, and to abide by all the reasonable regulations and requirements which Landlord may prescribe for the proper functioning and protection of the air conditioning system.

8.5 **Reserved**.

8.6 **Supplemental Air Conditioning Equipment**. In the event Tenant requires supplemental air conditioning for equipment, machines, meeting or equipment rooms or other purposes or uses, or because of specific climate control needs, occupancy or excess electrical loads, any supplemental air conditioning units, chillers, condensers, compressors, ducts, piping and other equipment, such supplemental air conditioning equipment will be installed, but only if, in Landlord's reasonable judgment, the same will not cause damage or injury to the Building or create a dangerous or hazardous condition or entail excessive or unreasonable alterations, repairs or expense or interfere with or disturb other tenants. At Landlord's sole election, such equipment will either be installed:

(a) by Landlord at Tenet's expense and Tenant shall reimburse Landlord in such an amount as will compensate it for the cost incurred by it in operating, maintaining, repairing and replacing, if necessary, such additional air conditioning equipment. At Landlord's election, such equipment shall (i) be maintained, repaired and replaced by Tenant at Tenant's sole cost and expense, and (ii) throughout the Term of this Lease, Tenant shall, at Tenant's sole cost and expense, purchase and maintain a service contract for such equipment from a service provider approved by Landlord. Tenant shall obtain Landlord's prior written approval of both the form of service contract and of the service provider; or

(b) by Tenant, subject to Landlord's prior approval of Tenant's plans and specifications for such work. In such event: (i) such equipment shall be maintained, repaired and replaced by Tenant at Tenant's sole cost and expense, and (ii) throughout the Term of this Lease, Tenant shall, at Tenant's sole cost and expense, purchase and maintain a service contract for such equipment from a service provider approved by Landlord. Tenant shall obtain Landlord's prior written approval of both the form of service contract and of the service provider.

8.7 **Landlord Repairs**. Except as otherwise provided in Articles 18 and 20, and subject to Tenant's obligations in Article 14, Landlord shall keep and maintain the roof, exterior walls, structural floor slabs, columns, elevators, public stairways and corridors, public lavatories, and other common equipment (including, without limitation, sanitary, electrical, heating, air conditioning, or other systems) serving both the Building and the Common Areas in good condition and repair. Landlord shall keep the paved portions of the Common Areas reasonably free of ice and snow, and shall sweep the Common Areas and clear any debris. In addition, Landlord shall maintain throughout the Lease Term the Common Areas in compliance with all Legal Requirements of general applicability thereto (including without limitation the Americans with Disabilities Act and those pertaining to Hazardous Materials (as defined below)); provided, however, Landlord shall not be obligated to correct non-compliance with Legal Requirements in the Premises if the non-compliance arises solely as a result of Tenant's specific use or occupancy of the Premises, or in connection with Tenant's Work or any subsequent alterations by Tenant. Notwithstanding any other provision of this Lease, Landlord, for itself and its employees, agents and contractors, reserves the right to refuse to perform any repairs or services in any laboratory portion of the Premises or any other portion which, pursuant to Tenant's safety guidelines, practices or custom or prudent industry practices, require any form of clothing or equipment other than safety glasses. In any such case, Tenant shall contract with commercial parties who are acceptable to Landlord, in Landlord's reasonable discretion, for all such repairs and services.

8.8 **Interruption or Curtailment of Services.** When necessary by reason of accident or emergency, or for repairs, alterations, replacements or improvements which in the reasonable judgment of Landlord are desirable or necessary to be made, or by reason of event(s) of Force Majeure, Landlord reserves the right to interrupt, curtail, stop or suspend (a) the furnishing of heating, elevator, air conditioning, and cleaning services and (b) the operation of the plumbing and electric systems and Neutralization System. Landlord shall use good faith efforts to provide Tenant with reasonable prior written notice (which notice may be by email) of any planned repair or improvements (which shall exclude emergencies) reasonably expected to have a material impact on the services provided by Landlord to Tenant. Landlord shall exercise reasonable diligence to eliminate the cause of any such interruption, curtailment, stoppage or suspension, but there shall be no diminution or abatement of rent or other compensation due from Landlord to Tenant hereunder, nor shall this Lease be affected or any of the Tenant's obligations hereunder reduced, and the Landlord shall have no responsibility or liability for any such interruption, curtailment, stoppage, or suspension of services or systems.

Notwithstanding the foregoing, Tenant shall be entitled to a proportionate abatement of Yearly Rent in the event of a Landlord Service Interruption (as defined below). For the purposes hereof, a "Landlord Service Interruption" shall occur in the event (i) the Premises shall lack any service which Landlord is required to provide hereunder thereby rendering the Premises untenantable for the entirety of the Landlord Service Interruption Cure Period (as defined below) and any consecutive period claimed by Tenant under this provision, (ii) such lack of service was not caused by Tenant, its employees, contractors, invitees or agents or by a casualty (in which event Section 18 shall control); (iii) Tenant in fact ceases to use the entire Premises for the entirety of the Landlord Service Interruption Cure Period and any consecutive period claimed by Tenant under this provision; and (iv) such interruption of service was the result of causes, events or circumstances within the Landlord's reasonable control and the cure of such interruption is within Landlord's reasonable control. For the purposes hereof, the "Landlord Service Interruption Cure Period" shall be defined as ten (10) consecutive business days after Landlord's receipt of written notice from Tenant of the Landlord Service Interruption

8.9 **Energy Conservation.** Notwithstanding anything to the contrary in this Article 8 or in this Lease contained, Landlord may institute, and Tenant shall comply (and cause its employees, invitees, agents and contractors to comply) with, such policies, programs and measures as may be necessary, required, or expedient for the conservation and/or preservation of energy or energy services, or as may be necessary or required to comply with applicable codes, rules regulations or standards, including but not limited to applying and reporting for the Building or any part thereto to seek or maintain certification under the U.S. EPA's Energy Start® rating system, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system or a similar system or standard. Upon reasonable request, Tenant shall provide Landlord with the necessary information or, at Tenant's option, grant Landlord access to Tenant's account with any utility company or provider paid directly by Tenant for utility services, so that Landlord can review the utility bills relating to the Premises in connection with any required energy reporting requirements to the City of Boston or other governmental agency or in connection with any third party energy certification program (e.g., LEED certification).

Regardless of LEED interest in tenant spaces, Tenant shall comply with the policies outlined, from time to time, for Green Cleaning and Integrated Pest Management.

8.10 **Access**. Subject to terms and conditions of this Lease, emergencies, applicable Legal Requirements, Landlord's Rules and Regulations and reasonable security requirements as the same may be amended from time to time and of which Tenant has received prior written notice, Tenant shall have access to the Premises and all Common Areas appurtenant to the Premises and the parking area twenty-four (24) hours a day, seven (7) days a week. Subject to the terms and conditions of this Lease including but not limited to Section 12, Tenant shall have the right to install a card key or similar security access system to the Premises.

9. TAXES AND OPERATING COSTS

9.1 **Definitions.** As used in this Article 9, the words and terms which follow mean and include the following:

(a) "Operating Year" shall mean a calendar year in which occurs any part of the Term of this Lease; provided Landlord reserves the right, from time to time, to change its Operating Year (e.g., from a calendar year basis to a fiscal year basis), or its accounting basis (e.g., from a cash basis to an accrual basis), and to make any necessary adjustments relating thereto.

(b) "Tenant's Proportionate Share" shall be the figure(s) as stated in Exhibit 1. Tenant's Proportionate Share is the ratio of the Total Rentable Area of the Premises to the aggregate Total Rentable Area of the Building, as adjusted by Landlord from time to time for a remeasurement of or changes in the physical size of the Premises or the Building or the rentable area therein. Notwithstanding the foregoing, Landlord may equitably adjust Tenant's Proportionate Share for all or part of any item of expense or cost reimbursable by Tenant that relates to a repair, replacement, or service that benefits only the Premises or only a portion of the Building or that varies with the occupancy of the Building.

(c) "Taxes" shall mean the real estate taxes and other taxes, levies and assessments imposed upon the Building, the Land and the Common Areas upon any personal property of Landlord used in the operation thereof, or Landlord**'s** interest in the Building, the Common Areas, or such personal property; charges, fees and assessments for transit, housing, police, fire or other governmental services or purported benefits to the Building and/or the Common Areas; service or user payments in lieu of taxes; and any and all other taxes, levies, betterments, assessments and charges arising from the ownership, leasing, operating, use or occupancy of the Building, the Common Areas or based upon rentals derived therefrom, which are or shall be imposed by Federal, State, Municipal or other authorities. For the purposes of this Lease, "Taxes" shall include any payment in lieu of taxes or any payments made under Chapter 121A of the Massachusetts General Laws or any similar law and any payments to, for or relating in whole or in part to any business improvement district in which the Land may be located. As of the Execution Date, "Taxes" shall not include any franchise, rental, income or profit tax, capital levy or excise, provided, however, that any of the same and any other tax, excise, fee, levy, charge or assessment, however described, that may in the future be levied or assessed as a substitute for or an addition to, in whole or in part, any tax, levy or assessment which would otherwise constitute "Taxes," whether or not now customary or in the contemplation of the parties on the Execution Date of this Lease, shall constitute "Taxes," but only to the extent calculated as if the Land is the only real estate owned or leased by Landlord. "Taxes" shall also include expenses of tax abatement or other proceedings contesting assessments or levies. Notwithstanding the foregoing, Landlord shall have the right to exclude from "Taxes", from time to time, any portions of the Building or Land or Common Areas that are taxed or billed by the City of Boston or other applicable taxing authority as a separate tax parcel (e.g., sub-parcel or associate parcel) and to reincorporate such separate tax parcel in the event such separate tax treatment terminates and, in such event, equitably increase or decrease, as the case may be, Tenant's Proportionate Share for purposes of invoicing Tenant for its Tax Share (as defined below). In addition, if applicable, Taxes shall be allocated by Landlord, in Landlord's reasonable judgment, among the Building and any other building(s) and improvements on the Land.

(d) **"**Tax Period**"** shall be any fiscal/tax period in respect of which Taxes are due and payable to the appropriate governmental taxing authority, any portion of which period occurs during the Term of this Lease, the first such Period being the one in which the Term Commencement Date occurs.

(e) **"**Operating Costs**"**:

(1) Definition of Operating Costs. "Operating Costs" shall mean all costs incurred and expenditures of whatever nature made by Landlord in the operation and management, for repair and replacements, cleaning and maintenance of the Land, Building and the Common Areas (including but not limited to the parking areas and facilities serving same from time to time), related equipment, facilities and appurtenances, elevators, cooling and heating equipment and the Common Laboratory Facilities (and services relating thereto). In the event that Landlord or Landlord's managers or agents perform services for the benefit of the Building or Land off-site which would otherwise be performed on-site (e.g., accounting), the cost of such services shall be reasonably allocated among the properties benefiting from such service and shall be included in Operating Costs. Landlord shall have the right but not the obligation, from time to time, to equitably allocate some or all of the Operating Costs among different tenants of the Building (the "Cost Pools"). Such Cost Pools may include, but shall not be limited to, tenants that share particular systems or equipment (including those relating to the Common Laboratory Facilities) or tenants that are similar users of particular systems or equipment such as by way of example but not limitation office space tenants of the Building, laboratory tenants of the Building and retail space tenants of the Building. Operating Costs shall include, without limitation, those categories of "Specifically Included Operating Costs," as set forth below, but shall not include "Excluded Costs," as hereinafter defined.

Definition of Excluded Costs. **"**Excluded Costs**"** shall be defined as mortgage charges, brokerage commissions, salaries of executives and owners not directly employed in the management/operation of the Building and Land, the cost of work done by Landlord for a particular tenant for which Landlord has the right to be reimbursed by such tenant, and, subject to Subparagraph (3) below, such portion of expenditures as are not properly chargeable against income, as well as the following excluded costs:

(a) the original demolition, entitlement, design and construction costs of any portion of the Building or the Land and renovation prior to the date of this Lease;

(b) [intentionally deleted];

(c) interest, principal payments of mortgage debts of Landlord, financing costs and amortization of funds borrowed by Landlord, whether secured or unsecured and all payments of base rent (but not taxes or operating expenses) under any ground lease or other underlying lease of all or any portion of the Building or Land, other than Supplemental Parking Leases;

(d) depreciation of the Building (except for capital improvements, the cost of which are includable in Operating Expenses) and except on materials, tools, supplies and vendor-type equipment purchased by Landlord to enable Landlord to supply services Landlord might otherwise contract for with a third party where such depreciation, amortization and interest would otherwise have been included in the charge for such third party's services all as determined in accordance with generally accepted accounting principles, consistently applied, and when depreciation or amortization is permitted or required, the item shall be amortized as provided herein below;

(e) advertising, legal and space planning expenses and leasing commissions and other costs and expenses incurred in procuring and leasing exclusive use space to tenants for the Building, free rent and construction allowances for tenants;

(f) legal and other expenses incurred in the negotiation or enforcement of leases;

(g) completing, fixturing, improving, renovating, painting, redecorating or other work, which Landlord pays for or performs for other tenants within their premises for the exclusive benefit of such tenant(s);

(h) costs of utilities outside normal business hours to the extent Landlord is reimbursed therefore (with Landlord agreeing to use commercially reasonable efforts to make claims and seek reimbursement, if and as applicable);

(i) costs reimbursed by other tenants of the Building or Taxes paid directly by Tenant or other tenants of the Building, or that are covered by a warranty to the extent of reimbursement for such coverage, or for which Landlord is otherwise reimbursed or credited (with Landlord agreeing to use commercially reasonable efforts to make claims and seek reimbursement, if and as applicable);

(j) general organizational, administrative and overhead costs relating to maintaining Landlord**'**s existence, either as a corporation, partnership, or other entity, including general corporate, legal and accounting expenses;

(k) costs (including attorneys' fees and costs of settlement, judgments and payments in lieu thereof) incurred in connection with disputes with tenants, other occupants, or prospective tenants, and costs and expenses, including legal fees, incurred in connection with negotiations or disputes with employees, consultants, management agents, leasing agents, purchasers or mortgagees of the Building;

(l) costs incurred by Landlord and payable to a tenant due to the violation by Landlord, its employees, agents or contractors of the terms and conditions of a lease of space in the Building to such tenant and costs incurred by Landlord as a result of any violation by Landlord of any Legal Requirement (provided that Landlord shall not be deemed to have violated a Legal Requirement if compliance with the Legal Requirement is Tenant's obligation);

(m) penalties, fines or interest incurred as a result of Landlord**'**s inability or failure to make payment of Taxes and/or to file any tax or informational returns when due, or from Landlord**'**s failure to make any payment of Taxes required to be made by Landlord hereunder before delinquency;

(n) overhead and profit increment paid to Landlord or to subsidiaries or affiliates of Landlord for goods and/or services in or to the Building or Common Areas to the extent the same exceeds the cost to Landlord of such goods and/or services if rendered by unaffiliated third parties on a competitive basis;

(o) costs of Landlord**'**s charitable or political contributions;

(p) costs in connection with services (including electricity), items or other benefits of a type that are not available to Tenant without specific charges therefor, but which are provided to another tenant or occupant of the Building, whether or not such other tenant or occupant is specifically charged therefor by Landlord;

(q) costs directly incurred in the sale or refinancing of the Building or the Land;

(r) any expenses otherwise includable within Operating Expenses to the extent actually reimbursed by insurance;

(s) reserves of any kind, including but not limited to replacement reserves, and reserves for bad debts or lost rent or any similar charge not involving the payment of money to third parties; and

(t) costs incurred in connection with environmental clean up, response action, or remediation on, in or under or about the Building or Land, to the extent such costs arise from an existing condition or an existing violation, as of the Effective Date, of any Environmental Law then in force, effect and applicable.

(3) Capital Expenditures.

(i) Replacements. If, during the Term of this Lease, Landlord shall replace any capital items or make any capital expenditures (collectively called "capital expenditures") the total amount of which is not properly includible in Operating Costs for the Operating Year in which they were made, there shall nevertheless be included in such Operating Costs and in Operating Costs for each succeeding Operating Year the amount, if any, by which the Annual Charge-Off (determined as hereinafter provided) of such capital expenditure (less insurance proceeds, if any, collected by Landlord by reason of damage to, or destruction of the capital item being replaced) exceeds the Annual Charge-Off of the capital expenditure for the item being replaced.

(ii) New Capital Items. If a new capital item is acquired which does not replace another capital item which was worn out, has become obsolete, etc., then there shall be included in Operating Costs for each Operating Year in which and after such capital expenditure is made the Annual Charge-Off of such capital expenditure.

(iii) Annual Charge-Off. "Annual Charge-Off" shall be defined as the annual amount of principal and interest payments which would be required to repay a loan ("Capital Loan") in equal monthly installments over the Useful Life, as hereinafter defined, of the capital item in question on a direct reduction basis at an annual interest rate equal to the Capital Interest Rate, as hereinafter defined, where the initial principal balance is the cost of the capital item in question. Notwithstanding the foregoing, if Landlord reasonably concludes on the basis of engineering estimates that a particular capital expenditure will effect savings in Building operating expenses including, without limitation, energy-related costs, and that such projected savings will, on an annual basis ("Projected Annual Savings"), exceed the Annual Charge-Off of such capital expenditure computed as aforesaid, then and in such events, the Annual Charge-Off shall be increased to an amount equal to the Projected Annual Savings; and in such circumstances, the increased Annual Charge-Off (in the amount of the Projected Annual Savings) shall be made for such period of time as it would take to fully amortize the cost of the capital item in question, together with interest thereon at the Capital Interest Rate as aforesaid, in equal monthly payments, each in the amount of one-twelfth (1/12th) of the Projected Annual Savings, with such payments being applied first to interest and the balance to principal.

(iv) Useful Life. **"**Useful Life**"** shall be reasonably determined by Landlord in accordance with generally accepted accounting principles and practices in effect at the time of acquisition of the capital item.

(v) Capital Interest Rate. "Capital Interest Rate" shall be defined as an annual rate of either one percentage point over the AA Bond rate (Standard & Poor's corporate composite or, if unavailable, its equivalent) as reported in the financial press at the time the capital expenditure is made or, if the capital item is acquired through third-party financing, then the actual (including

fluctuating) rate paid by Landlord in financing the acquisition of such capital item.

(4) Specifically Included Categories of Operating Costs. Operating Costs shall include, but not be limited to, the following:

Taxes (other than real estate taxes): Sales, Federal Social Security, Unemployment and Old Age Taxes and contributions and State Unemployment taxes and contributions accruing to and paid by the Landlord on account of all employees of Landlord and/or Landlord's managing agent, who are employed in, about or on account of the Building and Land, except that taxes levied upon the net income of the Landlord and taxes withheld from employees, and "Taxes" as defined in Article 9.1(c) shall not be included herein.

Water: All charges and rates connected with water supplied to the Building and related sewer use charges.

Heat and Air Conditioning: All charges connected with heat and air conditioning supplied to the Building.

Wages: Wages and costs of all employee benefits, employment taxes, etc. of all employees of the Landlord and/or Landlord's managing agent who are employed in, about or on account of the Building and Land.

Cleaning: The cost of labor (including third party janitorial contracts), supplies, tools and material for cleaning the Building and Land.

Elevator Maintenance: All expenses for or on account of the upkeep and maintenance of all elevators in the Building.

Management Fee: The cost of professional management of the Building and Land, not to exceed three percent (3%) of Landlord's annual gross revenues of the Building.

Administrative Costs: The cost of office expense for the management of the Building and Land, including, without limitation, rent, business supplies and equipment.

Electricity: The cost of all electric current for the operation of any machine, appliance or device used for the operation of the Premises and the Building, including the cost of electric current for the elevators, lights, air conditioning and heating, make-up air units and laboratory exhaust systems, Common Laboratory Facilities, but not including electric current which is paid for directly to the utility by the user/tenant in the Building or for which the user/tenant reimburses Landlord. (If and so long as Tenant is billed directly by the electric utility for its own consumption as determined by its separate meter, or billed directly by Landlord as determined by a check meter, then Operating Costs shall include only Common Area and Building systems' electric current consumption and not any demised Premises electric current consumption.) Wherever separate metering is unlawful, prohibited by utility company regulation or tariff or is otherwise impracticable, relevant consumption figures for the purposes of this Article 9 shall be determined by fair and reasonable allocations and engineering estimates made by Landlord.

Shared or Easement Costs: The Building's share (as reasonably determined and allocated by the applicable agreement or Landlord) of: (i) the costs incurred by Landlord in operating, maintaining, repairing, insuring and paying real estate taxes upon any shared facilities (including, without limitation, the common facilities from time to time serving the Building and Land in common with other buildings or parcels of land), such as any accessways, sewer and other utility lines, amenities and the like; (ii) shuttle bus service (if and so long as Landlord shall provide the same); (iii) the actual or imputed cost of the space occupied by on-the-grounds building attendant(s) and related personnel and the cost of administrative and or service personnel whose duties are not limited solely to the Building and Land, as reasonably determined and

allocated to the Building and Land by Landlord; and (iv) payments made by Landlord under any easement, license, operating agreement, declaration, restrictive covenant, or instrument pertaining to the payment or sharing of costs among property owners.

Ground Rent: Ground rent payments and other charges, if any, due pursuant to the Supplemental Parking Leases.

Insurance, etc.: Fire, casualty, liability, rent loss and such other insurance as may from time to time be required by lending institutions on first-class office buildings in the City or Town wherein the Building is located and all other expenses customarily incurred in connection with the operation and maintenance of first-class office buildings in the City or Town wherein the Building is located including, without limitation, insurance deductible amounts and rental costs associated with the Building's management office.

(5) Gross-Up Provision. Notwithstanding the foregoing, in determining the amount of Operating Costs for any calendar year or any portion thereof falling within the Term, if less than ninety-five percent (95%) of the Rentable Area of the Building shall have been occupied by tenants at any time during the period in question, then, at Landlord's election, Operating Costs for such period shall be adjusted to equal the amount Operating Costs would have been for such period had occupancy been ninety-five percent (95%) throughout such period. The extrapolation of Operating Costs under this paragraph shall be performed by appropriately adjusting the cost of those components of Operating Costs that are impacted by changes in the occupancy of the Building.

9.2 **Tax Share**. Commencing as of the Term Commencement Date and continuing thereafter with respect to each Tax Period occurring during the Term of the Lease, Tenant shall pay to Landlord, with respect to any Tax Period Tenant's Proportionate Share of Taxes for such Tax Period, such amount being hereinafter referred to as "Tax Share". Tax Share shall be due when billed by Landlord. In implementation and not in limitation of the foregoing, Tenant shall remit to Landlord pro rata monthly installments on account of projected Tax Share, calculated by Landlord on the basis of the most recent Tax data or budget available. If the total of such monthly remittances on account of any Tax Period is greater than the actual Tax Share for such Tax Period, Landlord may credit the difference against the next installment of rental or other charges due to Landlord hereunder. If the total of such remittances is less than the actual Tax Share for such Tax Period, Tenant shall pay the difference to Landlord within fifteen (15) days of when billed therefor.

Appropriate credit against Tax Share shall be given for any refund obtained by reason of a reduction in any Taxes by the Assessors or the administrative, judicial or other governmental agency responsible therefor. The original computations, as well as reimbursement or payments of additional charges, if any, or allowances, if any, under the provisions of this Article 9.2 shall be based on the original assessed valuations with adjustments to be made at a later date when the tax refund, if any, shall be paid to Landlord by the taxing authorities. Expenditures for legal fees and for other similar or dissimilar expenses incurred in obtaining the tax refund may be charged against the tax refund before the adjustments are made for the Tax Period.

9.3 **Operating Expense Share**. Commencing as of the Term Commencement Date and continuing thereafter with respect to each Operating Year occurring during the Term of the Lease,

Tenant shall pay to Landlord, with respect to any Operating Year, Tenant's Proportionate Share of Operating Costs for such Operating Year, such sum being hereinafter referred to as "Operating Expense Share". In implementation and not in limitation of the foregoing, Tenant shall remit to Landlord pro rata monthly installments on account of projected Operating Expense Share, calculated by Landlord on the basis of the most recent Operating Costs data or budget available. If the total of such monthly remittances on account of any Operating Year is greater than the actual Operating Expense Share for such Operating Year, Landlord may credit the difference against the next installment of rent or other charges due to Landlord hereunder. If the total of such remittances is less than actual Operating Expense Share for such Operating Year, Tenant shall pay the difference to Landlord within thirty (30) days of the date billed therefor.

Tenant**'**s Tax Share and Operating Expense Share shall be included in **"**Additional Rent.**"**

9.4 **Part Years**. If the Term Commencement Date or the Termination Date occurs in the middle of an Operating Year or Tax Period, Tenant shall be liable for only that portion of the Operating Expense or Tax Share, as the case may be, in respect of such Operating Year or Tax Period represented by a fraction, the numerator of which is the number of days of the herein Term which falls within the Operating Year or Tax Period and the denominator of which is three hundred sixty-five (365), or the number of days in said Tax Period, as the case may be.

9.5 **Effect of Talking**. In the event of any taking of the Building or the land upon which it stands under circumstances whereby this Lease shall not terminate under the provisions of Article 20 then, Tenant's Proportionate Share shall be adjusted appropriately to reflect the proportion of the Premises and/or the Building remaining after such taking.

9.6 **Survival**. Any obligations under this Article 9 which shall not have been paid at the expiration or sooner termination of the Term of this Lease shall survive such expiration and shall be paid when and as the amount of same shall be determined to be due.

10. CHANGES OR ALTERATIONS BY LANDLORD

Landlord reserves the right, exercisable by itself or its nominee, at any time and from time to time without the same constituting an actual or constructive eviction and without incurring any liability to Tenant therefor or otherwise affecting Tenant's obligations under this Lease, to make such changes, alterations, additions, improvements, repairs or replacements in or to: (a) the Building (including the Premises) and the fixtures and equipment thereof, (b) the street entrances, halls, passages, elevators, escalators, and stairways of the Building, and (c) the Common Areas, and facilities located therein, as Landlord may deem necessary or desirable, and to change the arrangement and/or location of entrances or passageways, doors and doorways, and corridors, elevators, stairs, toilets, or other public parts of the Building and/or the Common Areas, provided, however, that there be no unreasonable obstruction of the right of access to, or unreasonable interference with the use and enjoyment of the Premises by Tenant for the Permitted Use (but without regard to Tenant's specific use or manner of use), as supported by the facilities located in the Common Areas. Nothing contained in this Article 10 shall be deemed to relieve Tenant of any duty, obligation or liability of Tenant with respect to making any repair, replacement or improvement or complying with any law, order or requirement of any governmental or other authority. Landlord reserves the right to adopt and at any time and from time to time to change the name or address of the Building. Neither this Lease nor any use by Tenant shall give Tenant any right or easement for the use of any door, passage, concourse, walkway or parking area within the Building or in the Common Areas, and the use of such doors, passages, concourses, walkways, parking areas and such conveniences may be regulated or discontinued at any time and from time to time by Landlord without notice to Tenant and without affecting the obligation of Tenant hereunder or incurring any liability to Tenant therefor, provided, however, that there be no unreasonable obstruction of the right of access to, or unreasonable interference with the use of the Premises by Tenant.

If at any time any windows of the Premises are temporarily closed or darkened for any reason whatsoever including but not limited to, Landlord's own acts, Landlord shall not be liable for any damage Tenant may sustain thereby and Tenant shall not be entitled to any compensation therefor nor abatements of rent nor shall the same release Tenant from its obligations hereunder nor constitute an eviction.

11. FIXTURES, EQUIPMENT AND IMPROVEMENTS-REMOVAL BY TENANT

All fixtures, equipment, improvements and appurtenances attached to or built into the Premises prior to or during the Term, whether by Landlord at its expense or at the expense of Tenant (either or both) or by Tenant shall be and remain part of the Premises and shall not be removed by Tenant during or at the end of the Term unless Landlord otherwise elects to require Tenant to remove such fixtures, equipment, improvements and appurtenances, in accordance with Articles 12 and/or 22 of the Lease; provided however that in no event shall Tenant be obligated to remove any component of Landlord's Work (except to the extent Tenant requested a change to Landlord's Work, pursuant to Section 4, above, and Landlord conditioned approval of such change on Tenant removing a component thereof upon surrender). All electric, telephone, data, communication, radio, plumbing, heating and sprinkling systems, fixtures and outlets, vaults, paneling, molding, shelving, radiator enclosures, cork, rubber, linoleum and composition floors, ventilating, silencing, air conditioning and cooling equipment, fume hoods which penetrate the roof or plenum area, built-in cold rooms, built-in warm rooms, walk-in cold rooms, walk-in warm rooms, reverse osmosis and deionized water systems, glass washing equipment, autoclaves, chillers, built-in plumbing, electrical and mechanical equipment and systems, and any power generator and transfer switch shall be deemed to be included in such fixtures, equipment, improvements and appurtenances, whether or not attached to or built into the Premises. Where not built into the Premises, all removable electric fixtures, telephone, data and other communication cabling and equipment, carpets, drinking or tap water facilities, furniture, or trade fixtures or laboratory or business equipment or Tenant's inventory or stock in trade shall not be deemed to be included in such fixtures, equipment, improvements and appurtenances and may be, and upon the request of Landlord will be removed by Tenant upon the condition that such removal shall not materially damage the Premises or the Building and that the cost of repairing any damage to the Premises or the Building arising from installation or such removal shall be paid by Tenant. The covenants of this Section shall survive the expiration or earlier termination of the Term.

12. ALTERATIONS AND IMPROVEMENTS BY TENANT

Tenant shall make no alterations, decorations, installations, removals, utility installations, repairs additions or improvements (sometimes referred to herein collectively to as "Alterations" or singly as an "Alteration") in or to the Premises without Landlord**'**s prior written consent and unless made by contractors or mechanics approved by Landlord. No Alterations or work shall be undertaken or begun by Tenant until: (a) Landlord has approved written plans and specifications and a time schedule therefor; (b) Tenant has made provision for either written waivers of liens from all contractors, laborers and suppliers of materials for such Alterations or work (contingent only on payment), the filing of lien bonds on behalf of such contractors, laborers and suppliers, or other appropriate protective measures approved by Landlord; and (c) for Alterations the cost of which shall be in excess of $100,000.00 (without regard to whether the Alterations are to be performed at one time or in stages), Tenant has procured appropriate surety payment and performance bonds. No amendments or additions to such plans and specifications shall be made without the prior written consent of Landlord. Landlord's consent and approval required under this Article 12 shall not be unreasonably withheld, conditioned or delayed as to nonstructural Alterations (nonstructural Alterations being those that (X) do not adversely affect the Building's structure, or roof, or exterior or the mechanical, electrical, plumbing, life safety or other Building systems or architectural design or use of the Building or Premises, (Y) do not lessen the fair market value of Landlord's Work or the Premises or any other improvements on the Land, or (Z) do not adversely affect the LEED certifiability of the Building or any improvements therein or any LEED or similar certifications previously obtained with respect to the Building or any improvements therein). Landlord's approval is solely given for the benefit of Landlord and neither Tenant nor any third party shall have the right to rely upon Landlord's approval of Tenant's plans for any purpose whatsoever. Without limiting the foregoing, Tenant shall be responsible for all elements of the design of Tenant's plans (including, without limitation, compliance with law, functionality of design, the structural integrity of the design, the configuration of the Premises and the placement of Tenant's furniture, appliances and equipment), and Landlord's approval of Tenant's plans shall in no event relieve Tenant of the responsibility for such design. Landlord shall have no liability or responsibility for any

claim, injury or damage alleged to have been caused by the particular materials, whether building standard or non-building standard, appliances or equipment selected by Tenant in connection with any Alterations or work performed by or on behalf of Tenant in the Premises including, without limitation, furniture, carpeting, copiers, laser printers, computers and refrigerators. All Alterations made by Tenant shall be made in accordance with plans and specifications which have been approved in writing by the Landlord, pursuant to a duly issued permit, and in accordance with the provisions of Section 13(c) below, the provisions of this Lease and in a good and first-class workerlike manner using new materials of same or better quality as base building standard materials, finishes and colors, free of all liens and encumbrances. All such Alterations shall be done at Tenant's sole expense and at such times and in such manner as Landlord may from time to time designate. All Alterations shall be performed by a contractor or contractors selected by Tenant and approved in writing by Landlord. Tenant shall pay to Landlord a fee equal to the reasonable out-of-pocket expenses which Landlord incurs in reviewing the plans therefor and in monitoring the construction of the Alterations. If Tenant shall make any Alterations, then Landlord may elect in writing (which election may be by email) at the time of its approval of or consent to any such Alterations (which may be at the conclusion of the entire approval process) to require Tenant at the expiration or sooner termination of the Term of this Lease to restore the Premises to substantially the same condition as existed at the Yearly Rent Commencement Date. Tenant shall pay, as an additional charge, the entire increase in real estate taxes on the Building which shall, at any time prior to or after the Yearly Rent Commencement Date, result from or be attributable to any Alteration to the Premises made by or for the account of Tenant.

If, as a result of any Alterations made by Tenant, Landlord is obligated to comply with the Americans With Disabilities Act or any other federal, state or local laws or regulations and such compliance requires Landlord to make any improvement or alteration to any portion of the Building or the Land, as a condition to Landlord's consent, Landlord shall have the right to require Tenant to pay to Landlord prior to the construction of any such Alteration by Tenant, the entire cost of any improvement or alteration Landlord is obligated to complete by such law or regulation.

Without limiting any of the terms hereof, Landlord will not be required to approve any Alteration requiring unusual expense to readapt the Premises to normal office and/or laboratory use on lease termination or increasing the cost of construction, insurance or Taxes on the Building or of Landlord's services to the Premises, unless Tenant first gives assurance or security acceptable to Landlord that such re-adaptation will be made prior to such termination without expense to Landlord and makes provisions acceptable to Landlord for payment of such increased cost.

13. TENANT'S CONTRACTORS-MECHANICS' AND OTHER LIENS-STANDARD OF TENANT'S PERFORMANCE-COMPLIANCE WITH LAWS

Whenever Tenant shall make any Alterations in or to the Premises — whether such work be done prior to or after the Term Commencement Date — Tenant will strictly observe the following covenants and agreements:

(a) Tenant agrees that it will not, either directly or indirectly, use any contractors and/or materials if their use will create any difficulty, whether in the nature of a labor dispute or otherwise, with other contractors and/or labor engaged by Tenant or Landlord or others in the construction, maintenance and/or operation of the Building or any part thereof.

(b) In no event shall any material or equipment be incorporated in or added to the Premises, so as to become a fixture or otherwise a part of the Building, in connection with any such Alteration which is subject to any lien, charge, mortgage or other encumbrance of any kind whatsoever or is subject to any security interest or any form of title retention agreement. No installations or work shall be undertaken or begun by Tenant until (i) Tenant has made provision for written waiver of liens from all contractors, laborers and suppliers of materials for such installations or work, and taken other appropriate protective measures approved by Landlord; and (ii) Tenant has procured appropriate surety payment and performance bonds which shall name Landlord as an additional obligee and has filed lien bond(s) (in jurisdictions where available) on behalf of such contractors, laborers and suppliers. Any mechanic's lien filed against the Premises or the Building for work claimed to have been done for, or materials claimed to have been furnished to, Tenant shall be discharged by Tenant within ten (10) days thereafter, at Tenant's expense by filing the bond required by law or otherwise. If Tenant fails so to discharge any lien, Landlord may do so

at Tenant's expense and Tenant shall reimburse Landlord for any expense or cost incurred by Landlord in so doing within fifteen (15) days after rendition of a bill therefor.

(c) All installations or work done by Tenant shall be at its own expense and shall at all times comply with (i) laws, rules, orders and regulations of governmental authorities having jurisdiction thereof; (ii) orders, rules and regulations of any Board of Fire Underwriters, or any other body hereafter constituted exercising similar functions, and governing insurance rating bureaus; (iii) Rules and Regulations of Landlord; and (iv) plans and specifications prepared by and at the expense of Tenant theretofore submitted to and approved by Landlord.

(d) Tenant shall procure and deliver to Landlord copies of all necessary permits before undertaking any work in the Premises; do all of such work in a good and workmanlike manner, employing materials of good quality and complying with all governmental requirements; and defend, save harmless, exonerate and indemnify Landlord from all injury, loss or damage to any person or property occasioned by or growing out of such work. Tenant shall cause contractors employed by Tenant to carry Worker's Compensation Insurance in accordance with statutory requirements, Automobile Liability Insurance and, naming Landlord as an additional insured, Builder's Risk insurance, Commercial General Liability Insurance covering such contractors on or about the Premises in the amounts stated in Article 15 hereof or in such other reasonable amounts as Landlord shall require and to submit certificates evidencing such coverage to Landlord prior to the commencement of such work.

14. REPAIRS BY TENANT-FLOOR LOAD

14.1 **Repairs by Tenant**. Tenant shall keep all and singular the Premises neat and clean (including periodic rug shampoo and waxing of tiled floors and cleaning of blinds and drapes, at reasonable intervals) and in such repair, order and condition as the same are in on the Term Commencement Date or may be put in during the Term hereof, reasonable use and wearing thereof and damage by fire or by other casualty excepted. For purposes of this Lease, the terms "reasonable use and wearing" and "ordinary wear and use" (as referred to in Article 22 herein) and terms of similar meaning constitute that normal, gradual deterioration which occurs due to aging and ordinary use of the Premises despite reasonable and timely maintenance and repair, but in no event shall the aforementioned terms excuse Tenant from its duty to keep the Premises in good maintenance and repair or otherwise usable, serviceable and tenantable as required in the Lease. Tenant shall be solely responsible for the proper maintenance of all equipment and appliances operated by Tenant, including, without limitation, all refrigerators, coolers, ventilators and hoods, clean areas, and specialty and/or laboratory equipment. In connection with Tenant's obligations hereunder, Tenant shall enter into and maintain contracts with service and maintenance contractors reasonable approved by Landlord providing for, without limitation, regularly scheduled (monthly or quarterly as reasonably determined by Landlord) preventive maintenance/service contracts with respect to any heating, ventilation and air conditioning equipment and systems and other Building systems installed by Tenant and serving the Premises to maintain same in good working order and repair and in accordance with the applicable manufacturer's warranty guidelines. Tenant shall make, as and when needed as a result of misuse by, or neglect or improper conduct of, Tenant or Tenant's servants, employees, agents, contractors, invitees, or licensees or otherwise, all repairs in and about the Premises necessary to preserve them in such repair, order and condition, which repairs shall be in quality and class equal to the original work. Landlord may elect, at the expense of Tenant, to make any such repairs or to repair any damage or injury to the Building or the Premises caused by moving property of Tenant in or out of the Building, or by installation or removal of furniture or other property, or by misuse by, or neglect, or improper conduct of, Tenant or Tenant's servants, employees, agents, contractors, or licensees.

14.2 **Floor Load-Heavy Machinery**. Tenant shall not place a load upon any floor of the Premises exceeding the floor load per square foot of area which such floor was designed to carry and which is allowed by law. Landlord reserves the right to prescribe the weight and position of all business machines and mechanical equipment, including safes, which shall be placed so as to distribute the weight. Business machines and mechanical equipment shall be placed and maintained by Tenant at Tenant's expense in settings sufficient in Landlord's judgment to absorb and prevent vibration, noise and annoyance. Tenant shall not move any safe, heavy machinery, heavy equipment, freight, bulky matter, or fixtures into or out of the Building without Landlord's prior written consent, not to be unreasonably withheld, conditioned or delayed. If such safe, machinery, equipment, freight, bulky matter or fixtures

requires special handling, Tenant agrees to employ only persons holding a Master Rigger's License to do said work, and that all work in connection therewith shall comply with applicable laws and regulations. Any such moving shall be at the sole risk and hazard of Tenant and Tenant will defend, indemnify and save Landlord harmless against and from any liability, loss, injury, claim or suit resulting directly or indirectly from such moving. Proper placement of all such business machines, etc., in the Premises shall be Tenant's responsibility.

15. INSURANCE, INDEMNIFICATION, EXONERATION AND EXCULPATION

15.1 **General Liability Insurance**. During the Term of this Lease, Tenant shall procure, and keep in force and pay for:

(a) Commercial General Liability Insurance insuring Tenant on an occurrence basis against all claims and demands for personal injury liability (including, without limitation, bodily injury, sickness, disease, and death) or damage to property which may be claimed to have occurred from and after the time Tenant and/or its contractors enter the Premises in accordance with Article 4 of this Lease, of not less than Five Million ($5,000,000) Dollars in the event of personal injury to any number of persons or damage to property, arising out of any one occurrence, and contain the "Amendment of the Pollution Exclusion" for damage caused by heat, smoke or fumes from a hostile fire. The policy shall not contain any intra-insured exclusions as between insured persons or organizations, but shall include coverage for liability assumed under this Lease as an "insured contract" for the performance of Tenant's indemnity obligations under this Lease. Landlord may from time to time during the Term increase the coverages required of Tenant hereunder to that customarily carried in the area in which the Premises are located on property similar to the Premises.

(b) Workers' Compensation in amounts required by the State in which the Building is located and Employer's Liability insurance in the amount of $3,000,000.00 per occurrence.

(c) So called loss of income and extra expense insurance in amounts as will reimburse Tenant for direct or indirect loss of earnings attributable to all peril commonly insured against by prudent lessees in the business of Tenant or attributable to prevention of access to the Premises as a result of such perils.

(d) So called **"**Special Form**"** insurance coverage for all of its contents, furniture, furnishings, equipment, improvements, fixtures and personal property located at the Premises providing protection in an amount equal to one hundred percent (100%) of the replacement cost basis of said items. If this Lease is terminated as the result of a casualty in accordance with Section 18, the proceeds of said insurance attributable to the replacement of all tenant improvements installed at the Premises by Landlord or at Landlord's cost shall be paid to Landlord.

(e) Automobile liability insurance covering owned, non-owned and hired vehicles in an amount not less than a combined single limit of $1,000,000.00 combined single limit.

(f) Any other form or forms of insurance as Tenant or Landlord or any mortgagees of Landlord may reasonably require from time to time in form, in amounts and for insurance risks against which a prudent tenant would protect itself.

15.2 **Certificates of Insurance**. Such insurance shall be effected with insurers approved by Landlord, authorized to do business in the State wherein the Building is situated under valid and enforceable policies wherein Tenant names Landlord, Landlord's managing agent and Landlord's Mortgagees as additional insureds. Such insurance shall provide that it shall not be canceled or named therein; provided, however in the event Tenant's insurer is unable or unwilling to provide such notice, Tenant shall be obligated to provide the same to Landlord within the applicable time period(s). On or before the time Tenant and/or its contractors enter the Premises in accordance with Articles 4 and 14 of this Lease and thereafter not less than fifteen (15) days prior to the expiration date of each expiring policy, original copies of the policies provided for in Article 15.1 issued by the respective insurers, or certificates of such policies setting forth in full the provisions thereof and issued by such insurers together with evidence satisfactory to Landlord of the payment of all premiums for such policies, shall be delivered by Tenant to Landlord and certificates as aforesaid of such policies shall upon request of Landlord, be delivered by Tenant to the holder of any mortgage affecting the Premises.

15.3 **General**. Tenant will save Landlord, its agents and employees, harmless and will exonerate, defend and indemnify Landlord, its agents and employees, from and against any and all claims, liabilities or penalties asserted by or on behalf of any person, firm, corporation or public authority arising from the Tenant's breach of the Lease or:

(a) On account of or based upon any injury to person, or loss of or damage to property, sustained or occurring on the Premises on account of or based upon the act, omission, fault, negligence or misconduct of any person whomsoever (except to the extent the same is caused by the negligence of Landlord, its agents, contractors or employees);

(b) On account of or based upon any injury to person, or loss of or damage to property, sustained or occurring elsewhere (other than on the Premises) in or about the Building, Common Areas or Land (and, in particular, without limiting the generality of the foregoing, on or about the elevators, stairways, public corridors, sidewalks, concourses, arcades, parking areas and facilities, malls, galleries, approaches, areaways, roof, or other appurtenances and facilities used in connection with the Building, Land or Premises) arising out of the use or occupancy of the Building or Premises by the Tenant, or by any party claiming by, through or under Tenant, or on account of or based upon the act, omission, fault, negligence or misconduct of Tenant, its agents, employees or contractors (subject to the provisions of Section 19 below);

(c) On account of or based upon (including monies due on account of) any work or thing whatsoever done (other than by Landlord or its contractors, or agents or employees of either) on the Premises during the Term of this Lease and during the period of time, if any, prior to the Term Commencement Date that Tenant may have been given access to the Premises; and

(d) Tenant**'**s obligations under this Article 15.3 shall be insured either under the

Commercial General Liability Insurance required under Article 15.1, above, or by a contractual insurance rider or other coverage; and certificates of insurance in respect thereof shall be provided by Tenant to Landlord upon request.

15.4 **Property of Tenant**. In addition to and not in limitation of the foregoing,

Tenant covenants and agrees that, to the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186 §15), but subject to Tenant's insurance requirements hereunder, and Section 15 and Article 19 hereof, all merchandise, furniture, fixtures and property, inventory, research, experiments, laboratory animals, products, specimens, samples, and/or scientific, business, accounting and other records of every kind, nature and description related or arising out of Tenant's leasehold estate hereunder, which may be in or upon the Premises or Building, in the public corridors, or on the sidewalks, areaways and approaches adjacent thereto, and any income derived or derivable therefrom, shall be at the sole risk and hazard of Tenant, and that if the whole or any part thereof shall be damaged, destroyed,

stolen or removed from any cause or reason whatsoever, no part of said damage or loss shall be charged to, or borne by, Landlord.

15.5 Bursting of Pipes, etc. Landlord shall not be liable for any injury or damage to persons or property resulting from fire, explosion, falling plaster, steam, gas, air contaminants or emissions, electricity, electrical or electronic emanations or disturbance, water, rain or snow or leaks from any part of the Building or from the pipes, appliances, equipment or plumbing works or from the roof, street or subsurface or from any other place or caused by dampness, vandalism, malicious mischief or by any other cause of whatever nature, to the maximum extent this agreement may be made effective according to law (including the limitations set forth in M.G.L. c. 186 §15), but subject to Tenant's insurance requirements hereunder, and Section 15 and Article 19 hereof, and then only after (a) notice to Landlord of the condition claimed to constitute negligence and (b) the expiration of a reasonable time after such notice has been received by Landlord without Landlord having taken all reasonable and practicable means to cure or correct such condition; and pending such cure or correction by Landlord, Tenant shall take all reasonably prudent temporary measures and safeguards to prevent any injury, loss or damage to persons or property. In no event shall Landlord be liable for any loss, the risk of which is covered by Tenant's insurance or is required to be so covered by this Lease; nor shall Landlord or its agents be liable for any such damage caused by other tenants or persons in the Building or caused by operations in construction of any private, public, or quasi-public work; nor shall Landlord be liable for any latent defect in the Premises or in the Building.

15.6 Repairs and Alterations-No Diminution of Rental Value. Except as otherwise provided in Article 18, there shall be no allowance to Tenant for diminution of rental value and no liability on the part of Landlord by reason of inconvenience, annoyance or injury to Tenant arising from any repairs, alterations, additions, replacements or improvements made by Landlord, or any related work, Tenant or others in or to any portion of the Building or Premises or any property adjoining the Building, or in or to fixtures, appurtenances, or equipment thereof, or for failure of Landlord or others to make any repairs, alterations, additions or improvements in or to any portion of the Building, or of the Premises, or in or to the fixtures, appurtenances or equipment thereof.

15.7 Landlord's **Insurance.** During the Term of this Lease, Landlord shall obtain and keep in force (a) a policy of commercial general liability insurance providing coverage to Landlord with respect to liability arising out of ownership, operation and management of the Building (including all Common Areas) in an amount of not less than Five Million and 00/100 Dollars ($5,000,000.00) combined single limit which; (b) a policy or policies of insurance covering loss or damage to the Building (excluding any Tenant's Work, Alterations or Tenant's property and/or other Tenant furniture, trade fixtures, equipment, specialty equipment or other personal property, and, at Landlord's option, Landlord's Work) caused by any peril covered under fire, extended coverage and "Special Form" insurance in an amount not less than the replacement cost value above the foundation walls, as reasonably determined by Landlord from time to time, subject to commercially reasonable deductibles and retention, but in no event less coverage than the coverage that is consistent with that maintained by prudent owners of comparable first-class life science buildings in the Seaport District of Boston, Massachusetts; (c) workers' compensation in amounts required by the State in which the Building is located; and (d) such other insurance coverages and policies as Landlord determines in its sole but good faith judgment. Any such coverages may be effected directly and/or through the use of blanket insurance coverage covering more than one location and may contain such commercially reasonable deductibles as Landlord may elect in its reasonable discretion. The cost of such insurance shall be included in Operating Costs.

16. ASSIGNMENT, MORTGAGING AND SUBLETTING

16.1 **Generally.**

(a) Notwithstanding any other provisions of this Lease, Tenant covenants and agrees that it will not assign this Lease or sublet (which term, without limitation, shall include the granting of any concessions, licenses, occupancy rights, management arrangements and the like) the whole or any part of the Premises to anyone, other than a Permitted Transferee, as hereinafter defined, without, in each instance, having first received the express, written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. A change in Tenant's name shall not constitute an assignment or sublease hereunder, provided Tenant notifies Landlord in writing of such name change prior to making such change. Tenant shall not collaterally assign this Lease (or any portion thereof) or permit any assignment of this Lease by mortgage, other encumbrance or operation of law.

(b) Without limitation, it shall not be unreasonable for Landlord to withhold such approval from any assignment or subletting where, in Landlord's good faith opinion: (i) the proposed assignee or sublessee does not have a financial standing and credit rating reasonably acceptable to Landlord; (ii) the proposed assignee or sublessee does not have a good reputation in the community; (iii) the business in which the proposed assignee or sublessee is engaged could detract from the Building, its value or the costs of ownership thereof; (iv) the rent to be paid by any proposed sublessee is less than ninety percent (90%) of the then current fair market rent; (v) the proposed sublessee or assignee is a current tenant or a prospective tenant (meaning such tenant is in negotiations with Landlord for additional space in the Building meaning, by way of example not limitation, such tenant has been shown space or has been presented with or has made an offer to lease space within the last twelve (12) months) of the Building and Landlord will have space suitable to such proposed transferee's needs available within such proposed transferee's timeline; (vi) the use of the Premises by any sublessee or assignee (even though a permitted use hereunder) violates any exclusive use or other use restriction granted by Landlord in any other lease or would otherwise cause Landlord to be in violation of its obligations under another lease or agreement to which Landlord is a party; (vii) if such assignment or subleasing is not approved of by the holder of any mortgage on the Building or Land (if such approval is required); (viii) a proposed assignee's or subtenant's business will impose a burden on the Common Areas or other facilities serving the Building or the Land that is materially greater than the burden imposed by Tenant, in Landlord's reasonable judgment; (ix) any guarantor of this Lease refuses to consent to the proposed transfer or to execute a written agreement reaffirming the guaranty; (x) Tenant is in default of any of its obligations under the Lease at the time of the request or at the time of the proposed assignment or sublease; (xi) if requested by Landlord, the assignee or subtenant refuses to sign a non-disturbance and attornment agreement in favor of Landlord's lender; (xii) Landlord has sued or been sued by the proposed assignee or subtenant or has otherwise been involved in a legal dispute with the proposed assignee or subtenant; (xiii) the assignee or subtenant is involved in a business which is not in keeping with the then current standards of the Building; (xiv) the assignment or sublease will result in there being more than two (2) occupants of the Premises (including Tenant, if occupying) or results in a reconfiguration of the Premises in which there is a portion which, in Landlord's reasonable opinion, is not sufficiently marketable or fails to contain both office and laboratory space; or (xv) the assignee or subtenant is a governmental or quasi-governmental entity or an agency, department or instrumentality of a governmental or quasi-governmental agency, provided however that a private entity which has a contract with a government agency shall not be included in this category. With regard to an assignment of the Lease (other than a Permitted Transfer), Landlord may condition its consent upon such assignee depositing with Landlord such additional security as Landlord may reasonably require to assure the performance and observance of the obligations of such party to Landlord. In no event, however, shall Tenant assign this Lease or sublet the whole or any part of the Premises to a proposed assignee or sublessee which has been judicially declared bankrupt or insolvent according to law, or with respect to which an assignment has been made of property for the benefit of creditors, or with respect to which a receiver, guardian, conservator, trustee in involuntary bankruptcy or similar officer has been appointed to take charge of all or any substantial part of the proposed assignee's or sublessee's property by a court of competent jurisdiction, or with respect to which a petition has been filed for reorganization under any provisions of the Bankruptcy Code now or hereafter enacted, or if a proposed assignee or sublessee has filed a petition for such reorganization, or for arrangements under any provisions of the Bankruptcy Code now or hereafter enacted and providing a plan for a debtor to settle, satisfy or extend the time for the payment of debts.

(c) Any request by Tenant for such consent shall set forth or be accompanied by, in detail reasonably satisfactory to Landlord, (i) the identification of the proposed assignee or sublessee, (ii) its financial condition, (iii) a list of Hazardous Materials (as defined below), certified by the proposed assignee or sublessee to be true and correct, which the proposed assignee or sublessee intends to use, store, handle, treat, generate in or release or dispose of from the Premises, together with copies of all documents relating to such use, storage, handling, treatment, generation, release or disposal of Hazardous Materials by the proposed assignee or subtenant in or about the Premises, (iv) their proposed use of the Premises, (v) on Landlord's reasonable request, the nature of the

proposed assignee's or sublessee's business, (vi) on Landlord's reasonable request their business experience in the uses of Hazardous Materials, (vii) the terms on which the proposed assignment or subletting is to be made, including, without limitation, a signed copy of all assignment and sublease documents, and clearly stating the rent or any other consideration to be paid in respect thereto, and (viii) certificates of good standing (or certificates of qualification to do business in the Commonwealth if such proposed assignee or sublessee is a foreign entity) of the proposed assignee or sublessee issued by the Secretary of the Commonwealth of Massachusetts; and such request shall be treated as Tenant's warranty in respect of the information submitted therewith. Tenant's request shall not be deemed complete or submitted until all of the foregoing information has been received by Landlord. Landlord shall respond to such request for consent within thirty (30) days following Landlord's receipt of all information, documentation and security required by Landlord with respect to such proposed sublease or assignment.

(d) **Reserved.**

(e) The foregoing restrictions shall be binding on any assignee or sublessee to which Landlord has consented, provided, notwithstanding anything else contained in this Lease, Landlord's consent to any further assignment, subleasing or any sub-subleasing by any approved assignee or sublessee may be withheld by Landlord at Landlord's sole and absolute discretion.

(f) Consent by Landlord to any assignment or subleasing shall not include consent to the assignment or transferring of any lease renewal, extension or other option, first offer, first refusal or other rights granted hereunder, or any special privileges or extra services granted to tenant by separate agreement (written or oral), or by addendum or amendment of the Lease.

(g) In the case of any assignment of this Lease or subletting of the Premises, the Tenant named herein shall be and remain fully and primarily liable for the obligations of Tenant hereunder, notwithstanding such assignment or subletting, including, without limitation, the obligation to pay the Yearly Rent and other amounts provided under this Lease, and the Tenant shall be deemed to have waived all suretyship defenses.

(h) In addition to the foregoing, it shall be a condition of the validity of any such assignment or subletting that the assignee or sublessee agrees directly with Landlord, in form satisfactory to Landlord, to be bound by all the obligations of Tenant hereunder, including, without limitation, the obligation to pay Yearly Rent and other amounts provided for under this Lease, the covenant regarding use and the covenant against further assignment and subletting, and that any sublessee agree it will not breach, or cause Landlord to breach, any of the provisions of the Supplemental Parking Lease(s).

16.2 **Reimbursement, Recapture and Excess Rent.**

(a) Tenant shall, upon demand, reimburse Landlord for the reasonable out-of-pocket fees and expenses (including legal and administrative fees and costs) incurred by Landlord in processing any request to assign this Lease or to sublet all or any portion of the Premises, whether or not Landlord agrees thereto, and if Tenant shall fail promptly so to reimburse Landlord, the same shall be a default in Tenant's monetary obligations under this Lease subject to the Monetary Grace Period, if applicable, set forth in Section 21.7 below.

(b) If Tenant requests Landlord's consent to assign this Lease or sublet (or otherwise grant occupancy rights in and to) more than fifty percent (50%) of the Premises for all or substantially all of the balance of the Lease Term, Landlord shall have the option, exercisable by written notice to Tenant given within thirty (30) days after Landlord's receipt of Tenant's completed request, to terminate this Lease as of the date specified in such notice, which shall not be less than thirty (30) nor more than ninety (90) days after the date of such notice, as to the entire Premises in the case of a proposed assignment or subletting of the whole Premises, and as to the portion of the Premises to be sublet in the case of a subletting of a portion. In the event of termination in respect of a portion of the Premises, the portion so eliminated shall be delivered to Landlord on the date specified in good order and condition in the manner provided in this Lease at the end of the Term and thereafter, to the extent necessary in Landlord's judgment, Landlord, at its own cost and expense, may have access to and may make modification to the Premises (or portion thereof) so as to make such portion a self-contained rental unit with access to common areas, elevators and the like. Yearly Rent and the rentable floor area of the Premises (and any calculations based thereon) shall be adjusted according to the extent of the Premises for which the Lease is terminated.

(c) Without limitation of the rights of Landlord hereunder in respect thereto, if there is any assignment of this Lease by Tenant for consideration or a subletting of the whole of the Premises by Tenant at a rent which exceeds the rent payable hereunder by Tenant, or if there is a subletting of a portion of the Premises by Tenant at a rent in excess of the subleased portion's pro rata share of the rent payable hereunder by Tenant, then Tenant shall pay to Landlord, as Additional Rent, forthwith upon Tenant's receipt of, in the case of an assignment, all of the consideration (or the cash equivalent thereof) therefor which is reasonably attributable to the assignment of the lease (and not the consideration for a broader corporate transaction) and in the case of a subletting, fifty percent (50%) of any such excess rent, when received by Tenant (taking into account the exclusions from "rent" as described below). For the purposes of this subsection, the term "rent" shall mean all Yearly Rent, Additional Rent or other payments and/or consideration payable by one party to another for the use and occupancy of all or a portion of the Premises including, without limitation, key money, or bonus money paid by the assignee or subtenant to Tenant in connection with such transaction and any payment in excess of fair market value for services rendered by Tenant to the assignee or subtenant or for assets, fixtures, inventory, equipment or furniture transferred by Tenant to the assignee or subtenant in connection with any such transaction, but shall exclude any separate payments by Tenant in connection with such assignment or subletting for reasonable attorney's fees and broker's commissions, reasonable (based upon market standards) tenant improvements, and reasonable (based upon market standards) abatement periods.

(d) Notwithstanding anything contained in this Article 16, Landlord will have the right to (i) negotiate directly with any proposed assignee or sublessee of Tenant, and (ii) enter into a direct lease with any proposed assignee or sublessee of Tenant for any space in the Building, including the space covered by the proposed sublease or assignment, on such terms and conditions as are mutually acceptable to the proposed assignee or sublessee.

(e) The following terms and conditions shall apply to any subletting by Tenant of all or any part of the Premises and shall be deemed included in all subleases under this Lease whether or not expressly incorporated therein:

Tenant hereby absolutely and unconditionally assigns and transfers to Landlord all of Tenant's interest in all rentals and income arising from any sublease entered into by Tenant, and Landlord may collect such rent and income and apply same toward Tenant's obligations under this Lease; provided, however, that until a default occurs in the performance of Tenant's obligations under this Lease, Tenant may receive, collect and enjoy the rents accruing under such sublease. Landlord shall not, by reason of this or any other assignment of such rents to Landlord nor by reason of the collection of the rents from a subtenant, be deemed to have assumed or recognized any sublease or to be liable to the subtenant for any failure of Tenant to perform and comply with any of Tenant's obligations to such subtenant under such sublease, including, but not limited to, Tenant's obligation to return any security deposit. Tenant hereby irrevocably authorizes and directs any such subtenant, upon receipt of a written notice from Landlord stating that a default exists in the performance of Tenant's obligations under this Lease, to pay to Landlord the rents due as they become due under the sublease. Tenant agrees that such subtenant shall have the right to rely upon any such statement and request from Landlord, and that such subtenant shall pay such rents to Landlord without any obligation or right to inquire as to whether such default exists and notwithstanding any notice from or claim from Tenant to the contrary. In the event Tenant shall default in the performance of its obligations under this Lease or Landlord terminates this Lease by reason of a default of Tenant, Landlord at its option and without any obligation to do so, may require any subtenant to attorn to Landlord, in which event Landlord shall undertake the obligations of Tenant under such sublease from the time of the exercise of said option to the termination of such sublease; provided, however, Landlord shall not be liable for any prepaid rents or security deposit paid by such subtenant to Tenant or for any other prior defaults of Tenant under such sublease.

16.3 **Certain Transfers.**

(a) The provisions of this Section 16.3(a) shall not be applicable so long as the Tenant is a corporation, the outstanding voting stock of which is listed on a recognized security exchange, or if at least eighty percent (80%) of its voting stock is owned by another corporation, the voting stock of which is so listed. If at any time Tenant's interest in this Lease is held by a corporation, trust, partnership, limited liability company or other entity, the transfer of more than fifty percent (50%) (or such lesser percentage which results in a change in the control of Tenant) of the voting stock, beneficial interests, partnership interests, membership interests or other ownership interests therein (whether at one time or in the aggregate) shall be deemed an assignment of this Lease, and shall require Landlord's prior written consent, which consent shall not unreasonably with withheld, delayed or

conditioned provided, however, it shall not be unreasonable for Landlord to withhold such approval for any of the reasons set forth in Section 16.1(b). In addition, a consummated initial public offering of Tenant's stock on a recognized national stock exchange shall not be considered a transfer under Article 16 requiring Landlord's consent.

(b) To enable Landlord to determine the ownership of Tenant, Tenant agrees to furnish to Landlord, from time to time promptly after Landlord's request therefor, (i) if the first sentence of subsection 16.3(a) is applicable, proof of listing on a recognized security exchange, or (ii) if the first sentence of subsection 16.3(a) is not applicable, an accurate and complete listing of the holders of its stock, beneficial interests, partnership interests, membership interests or other ownership interests therein as of such request and as of the date of this Lease. Landlord shall use reasonable efforts to keep confidential any information received by Landlord pursuant to this Section 16.3(b), provided, however, that Landlord shall have the right to disclose any such information to existing or prospective mortgagees, or prospective purchasers of the Building.

(c) Notwithstanding any other provision of this Section, transactions with an entity (a "Permitted Transferee") (i) into or with which Tenant is merged or consolidated, (ii) to which substantially all of Tenant's assets are transferred as a going concern, or (iii) which controls or is controlled by Tenant or is under common control with Tenant, shall not be deemed to be an assignment or subletting within the meaning of this Section, provided that in any of such events (i.e., (i), (ii) or (iii)) (1) Landlord receives prior written notice of any such transactions, unless such transactions are required by Applicable Law to remain confidential, in which event Tenant shall provide Landlord written notice as soon as permitted by law, (2) the assignee or subtenant agrees directly with Landlord, by written instrument in form satisfactory to Landlord, to be bound by all the obligations of Tenant hereunder excluding, however, the covenant against further assignment and subletting, (3) in no event shall Tenant be released from its obligations under this Lease, (4) any such transfer or transaction is for a legitimate, regular business purpose of Tenant other than a transfer of Tenant's interest in this Lease, and (5) the involvement by Tenant or its assets in any transaction, or series of transactions (by way of merger, sale, acquisition, financing, refinancing, transfer, leveraged buy-out or otherwise) whether or not a formal assignment or hypothecation of this Lease or Tenant's assets occurs, will not result in a reduction of the "Net Worth" of Tenant as hereinafter defined, below an amount equal to such Net Worth of Tenant as it is represented to Landlord at the time of the execution by Landlord of this Lease. "Net Worth" of Tenant for purposes of this section shall be the tangible net worth of Tenant (excluding any guarantors) established under generally accepted accounting principles consistently applied.

17. **MISCELLANEOUS COVENANTS**

Tenant covenants and agrees as follows:

17.1 **Rules and Regulations**. Tenant will faithfully observe and comply with the Rules and Regulations, if any, annexed hereto, including without limitation the current rules and regulations, a copy of which are attached hereto as Exhibit 5 and such other and further reasonable Rules and Regulations as Landlord hereafter at any time or from time to time may make and may communicate in writing to Tenant, which in the reasonable judgment of Landlord shall be necessary for the reputation, safety, care or appearance of the Building, or the preservation of good order therein, or the operation or maintenance of the Building, or the equipment thereof, or the comfort of tenants or others in the Building, provided, however, that in the case of any conflict between the provisions of this Lease and any such regulations, the provisions of this Lease shall control, and provided further that nothing contained in this Lease shall be construed to impose upon Landlord any duty or obligation to enforce the Rules and Regulations or the terms, covenants or conditions in any other lease as against any other tenant and Landlord shall not be liable to Tenant for violation of the same by any other tenant or such other tenant's servants, employees, agents, contractors, visitors, invitees or licensees. Landlord shall not discriminatorily enforce the Rules and Regulations.

17.2 **Access to Premises-Shoring**. Tenant shall: (a) permit Landlord to erect, use and maintain pipes, ducts and conduits in and through the Premises, provided the same do not materially reduce the floor area or materially adversely affect the appearance thereof (in exercising its rights under this Section 17.2, Landlord shall make commercially reasonable efforts to locate any pipes, ducts, and conduits behind walls and above ceilings so as to minimize interference with the Premises); (b) upon reasonable prior oral notice of at least 24 hours, which notice may be by email (except that no notice shall be required in emergency situations or when performing a service requested by Tenant), permit Landlord and any mortgagee of the Building or the Building and Land or of the interest of Landlord therein, and any lessor under any ground or underlying lease, and their representatives, to have free and unrestricted access to and to enter upon the Premises at all reasonable hours for the purposes of inspection or of making repairs, replacements or improvements in or to the Premises or the Building or equipment (including, without limitation, sanitary, electrical, heating, air conditioning or other systems) or of complying with all Legal Requirements or of exercising any right reserved to Landlord by this Lease (including the right during the progress of any such repairs, replacements or improvements or while performing work and furnishing materials in connection with compliance with any such laws, orders or requirements to take upon or through, or to keep and store within, the Premises all necessary materials, tools and equipment); and (c) after reasonable prior notice (which notice may be by email), permit Landlord, at reasonable times, to show the Premises during ordinary business hours to any existing or prospective mortgagee, ground lessor, space lessee, purchaser, or assignee of any mortgage, of the Building or of the Building and the land or of the interest of Landlord therein, and during the period of twelve (12) months next preceding the Termination Date, after reasonable prior notice of at least 24 hours (which notice may be by email) to any person contemplating the leasing of the Premises or any part thereof. If, during the last month of the term, Tenant shall have removed all or substantially all of Tenant's property therefrom, Landlord may enter and alter, renovate and redecorate the Premises, without elimination or abatement of rent, or incurring liability to Tenant for any compensation, and such acts shall have no effect upon this Lease. If Tenant shall not be personally present to open and permit an entry into the Premises at any time when for any reason an entry therein shall be necessary or permissible, Landlord or Landlord's agents may enter the same by a master key, or may forcibly enter the same, without rendering Landlord or such agents liable therefor (if during such entry Landlord or Landlord's agents shall accord reasonable care to Tenant's property), and without in any manner affecting the obligations and covenants of this Lease. Provided that Landlord shall incur no additional expense thereby, Landlord shall exercise its rights of access to the Premises permitted under any of the terms and provisions of this Lease in such manner as to minimize to the extent practicable interference with Tenant's use and occupation of the Premises. If an excavation shall be made upon land adjacent to the Premises or shall be authorized to be made, Tenant shall afford to the person causing or authorized to cause such excavation, license to enter upon the Premises for the purpose of doing such work as said person shall deem necessary to preserve the Building from injury or damage and to support the same by proper foundations without any claims for damages or indemnity against Landlord, or diminution or abatement of rent.

17.3 **Accidents to Sanitary and Other Systems**. Tenant shall give to Landlord prompt notice of any fire or accident in the Premises or in the Building and of any damage to, or defective condition in, any part or appurtenance of the Building including, without limitation, sanitary, electrical, ventilation, heating and air conditioning or other systems located in, or passing through, the Premises. Except as otherwise provided in Articles 18 and 20, and subject to Tenant's obligations in Article 14, such damage or defective condition shall be remedied by Landlord with reasonable diligence, but if such damage or defective condition was caused by Tenant or by the employees, licensees, contractors or invitees of Tenant, the cost to remedy the same shall be paid by Tenant, subject to Article 19, below. In addition, all reasonable costs incurred by Landlord in connection with the investigation of any notice given by Tenant shall be paid by Tenant if the reported damage or defective condition was caused by Tenant or by the employees, licensees, contractors, or invitees of Tenant.

17.4 **Signs, Blinds and Drapes**. Tenant shall put no signs in any part of the Building. Notwithstanding the foregoing, Tenant shall be entitled at no cost to Tenant to have its initial name inserted in the Building directory and installed in the common lobby of any multi-tenanted floors on which the Premises is located in accordance with Building standard suite signage specifications; provided, however, changes to such signage required by changes in Tenant's name or as the result of a transfer in accordance with Article 16 above, shall be at Tenant's sole cost and expense. No signs or blinds may be put on or in any window or elsewhere if visible from the exterior of the Building, nor may the building standard drapes or blinds be removed by Tenant. Tenant may hang its own drapes, provided that they shall not in any way interfere with the building standard drapery or blinds or be visible from the exterior of the Building and that such drapes are so hung and installed that when drawn, the building standard drapery or blinds are automatically also drawn. Any signs or lettering in the public corridors or on the doors shall conform to Landlord's building standard design. Neither Landlord's name, nor the name of the Building or project of which the Building is a part, or the name of any other structure erected therein shall be used without Landlord's consent in any advertising material (except on business stationery or as an address in advertising matter), nor shall any such name, as aforesaid, be used in any undignified, confusing, detrimental or misleading manner.

17.5 **Estoppel Certificate and Financial Statements**. Tenant shall at any time and from time to time upon not less than ten (10) business days' prior notice by Landlord to Tenant, execute, acknowledge and deliver to Landlord a statement in writing certifying that this Lease is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as modified and stating the modifications), and the dates to which the Yearly Rent and other charges have been paid in advance, if any, stating whether or not Landlord is in default in performance of any covenant, agreement, term, provision or condition contained in this Lease and, if so, specifying each such default and such other facts as Landlord may reasonably request, it being intended that any such statement delivered pursuant hereto may be relied upon by any prospective purchaser of the Building or of the Building and the land or of any interest of Landlord therein, any mortgagee or prospective mortgagee thereof, any lessor or prospective lessor thereof, any lessee or prospective lessee thereof, or any prospective assignee of any mortgage thereof. Time is of the essence in respect of any such requested certificate, Tenant hereby acknowledging the importance of such certificates in mortgage financing arrangements, prospective sale and the like. Tenant's failure to provide an estoppel certificate within the time period(s) provided hereunder shall, at Landlord's option, be considered a default under this Lease and, in addition, at Landlord's option, Tenant shall be deemed to have conclusively accepted all of the statements and terms set forth in the estoppel certificate attached to any Landlord's request therefor within ten (10) business days provided such request (or subsequent request) includes *in bold type within the written request, the statement (in a reasonably large size font and in bold) that Tenant's failure to respond to the request within ten (10) days after receipt thereof shall be deemed an the conclusive acceptance of all of the statements and terms set forth in the attached estoppel certificate*. Within 120 days after the end of Tenant's fiscal years during the Term of this Lease, at Landlord's request, Tenant agrees to furnish to Landlord copies of Tenant's most recent annual, quarterly and monthly financial statements, audited if available (if such audited financial statement is not available, such financial statement may be certified by an officer (vice president

or higher) of Tenant). The financial statements shall be prepared in accordance with generally accepted accounting principles, consistently applied. The financial statements shall include a balance sheet and a statement of profit and loss, and the annual financial statement shall also include a statement of changes in financial position and appropriate explanatory notes. Landlord may deliver the financial statements to any prospective or existing mortgagee or purchaser of the Building and/or Land.

17.6 **Prohibited Materials and Property**. Tenant shall not bring or permit to be brought or kept in or on the Premises or elsewhere in the Building (a) any inflammable, combustible or explosive fluid, material, chemical or substance including, without limitation, any hazardous substances as defined under M.G.L c. 21E, the Federal Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC 89601 et seq., as amended, under Section 3001 of the Federal Resource Conservation and recovery Act of 1976, as amended, or under any regulation of any governmental authority regulation environmental or health matters (except for standard office supplies stored in proper containers), (b) any materials, appliances or equipment (including, without limitation, materials, appliances and equipment selected by Tenant for the construction or other preparation of the Premises and furniture and carpeting) which pose any danger to life, safety or health or may cause damage, injury or death, (c) any unique, unusually valuable, rare or exotic property, work of art or the like unless the same is fully insured under all-risk coverage, or (d) any data processing, electronic, optical or other equipment or property of a delicate, fragile or vulnerable nature unless the same are housed, shielded and protected against harm and damage, whether by cleaning or maintenance personnel, radiations or emanations from other equipment now or hereafter installed in the Building, or otherwise. Nor shall Tenant cause or permit any potentially harmful air emissions, odors of cooking or other processes, or any unusual or other objectionable odors or emissions to emanate from or permeate the Premises. Landlord acknowledges that it is not the intent of this Section 17.6 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to best industry, laboratory and scientific standards and practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Requirements, Legal Requirements, Rules and Regulations, and the terms and provisions of this Lease (including, without limitation, this Section 17.6).

17.7 **Requirements of Law-Fines and Penalties**. Tenant at its sole expense shall comply with all laws, rules, orders and regulations, including, without limitation, all energy- related requirements, of Federal, State, County and Municipal Authorities and with any direction of any public officer or officers, pursuant to law, which shall impose any duty upon Landlord or Tenant with respect to or arising out of Tenant's use or occupancy of the Premises. Tenant shall reimburse and compensate Landlord for all expenditures made by, or damages or fines sustained or incurred by, Landlord due to nonperformance or noncompliance with or breach or failure to observe any item, covenant, or condition of this Lease upon Tenant's part to be kept, observed, performed or complied with. If Tenant receives notice of any violation of law, ordinance, order or regulation applicable to the Premises, it shall give prompt notice thereof to Landlord.

17.8 **Tenant's Acts--Effect on Insurance**. Tenant shall not do or permit to be done any act or thing upon the Premises or elsewhere in the Building which will invalidate or be in conflict with any insurance policies covering the Building and the fixtures and property therein; and shall not do, or permit to be done, any act or thing upon the Premises which shall subject Landlord to any liability or responsibility for injury to any person or persons or to property by reason of any business or operation being carried on upon said Premises or for any other reason. Tenant at its own expense shall comply with all rules, orders, regulations and requirements of the Board of Fire Underwriters, or any other similar body having jurisdiction, and shall not (a) do, or permit anything to be done, in or upon the Premises, or bring or keep anything therein, except as now or hereafter permitted by the Fire Department, Board of Underwriters, Fire Insurance Rating Organization, or other authority having jurisdiction, and then only in such quantity and manner of storage as will not increase the rate for any insurance applicable to the Building, or (b) use the Premises in a manner which shall increase such insurance rates on the Building, or on property located therein, over that applicable when Tenant first took occupancy of the Premises hereunder. If by reason of the failure of Tenant to comply with the provisions hereof the insurance rate

applicable to any policy of insurance shall at any time thereafter be higher than it otherwise would be, the Tenant shall reimburse Landlord for that part of any insurance premiums thereafter paid by Landlord, which shall have been charged because of such failure by Tenant.

17.9 **Miscellaneous.** Tenant shall not suffer or permit the Premises or any fixtures, equipment or utilities therein or serving the same, to be overloaded, damaged or defaced, nor permit any hole to be drilled or made in any part thereof. Tenant shall not suffer or permit any employee, contractor, business invitee or visitor to violate any covenant, agreement or obligations of the Tenant under this Lease.

18. DAMAGE BY FIRE, ETC.

(a) If the Premises or the Building are damaged in whole or in part by any fire or other casualty (a "casualty"), the Tenant shall immediately give notice thereof to the Landlord. Unless this Lease is terminated as provided herein, the Landlord, at its own expense (except for any insurance deductibles, which shall be deemed Operating Costs), and proceeding with due diligence and all reasonable dispatch, but subject to delays related to any event(s) of Force Majeure, shall repair and reconstruct the same so as to restore the Premises (but not any Alterations made by or for Tenant or any trade fixtures, equipment or personal property of Tenant) to substantially the same condition they were in prior to the casualty, subject to zoning, building and other laws then in effect. Notwithstanding the foregoing, in no event shall Landlord be obligated either to repair or rebuild if the damage or destruction results from an uninsured casualty or if the costs of such repairing or rebuilding exceeds the amount of the insurance proceeds (net of all costs and expenses incurred in obtaining same) received by Landlord on account thereof. Landlord shall not be liable for any inconvenience or annoyance to Tenant or injury to the business of Tenant resulting from delays in repairing such damage.

(b) Landlord shall, within sixty (60) days after the occurrence of a casualty, provide Tenant with a good faith estimate of the time required to repair the damage to the Premises or the Building, as provided herein; if such estimate is for a period of more than two hundred seventy (270) days from the occurrence of the casualty (or during the last eighteen (18) months of the term, for a period of more than ninety (90) days), the Premise**s** shall be deemed "substantially damaged". If the Premises or the Building are substantially damaged, Landlord may elect to terminate this Lease by giving Tenant written notice of such termination within sixty (60) days of the date of such casualty; and if the Premises or the Building are substantially damaged, and if as a result the Premises are rendered substantially or completely untenantable or inaccessible for the uses permitted under this Lease, then Tenant may terminate this Lease by giving Landlord written notice of such termination within sixty (60) days of the date of such casualty.

(c) For so long as such damage results in material interference with the operation of Tenant's use of the Premises which material interference causes Tenant to be unable to use all or a portion of the Premises, the Yearly Rent payable by Tenant shall abate or be reduced proportionately for the period, commencing on the day following such material interference and continuing until the Premises has been substantially restored.

(d) If the Premises are damaged by a casualty, and the Lease is not terminated as provided herein, the Tenant, at its own expense, and proceeding with all reasonable dispatch, shall repair and reconstruct all of the

Alterations made to the Premises by or for Tenant, including and any trade fixtures, equipment or personal property of Tenant which shall have been damaged or destroyed.

19. WAIVER OF SUBROGATION

In any case in which Tenant shall be obligated to pay to Landlord any loss, cost, damage, liability, or expense suffered or incurred by Landlord, Landlord shall allow to Tenant as an offset against the amount thereof (i) the net proceeds of any insurance collected by Landlord for or on account of such loss, cost, damage, liability or expense, provided that the allowance of such offset does not invalidate or prejudice the policy or policies under which such proceeds were payable, and (ii) if such loss, cost, damage, liability or expense shall have been caused by a peril against which Landlord has agreed to procure insurance coverage under the terms of this Lease, the amount of such insurance coverage, whether or not actually procured by Landlord.

In any case in which Landlord or Landlord's managing agent shall be obligated to pay to Tenant any loss, cost, damage, liability or expense suffered or incurred by Tenant, Tenant shall allow to Landlord or Landlord's managing agent, as the case may be, as an offset against the amount thereof (i) the net proceeds of any insurance collected by Tenant for or on account of such loss, cost, damage, liability, or expense, provided that the allowance of such offset does not invalidate the policy or policies under which such proceeds were payable and (ii) if such loss, cost, damage, liability or expense shall have been caused by a peril against which Tenant is required to procure insurance coverage under the terms of this Lease, the amount of such insurance coverage, whether or not actually procured by Tenant.

The parties hereto shall each procure an appropriate clause in, or endorsement on, any property insurance policy covering the Premises and the Building and personal property, fixtures and equipment located thereon and therein, pursuant to which the insurance companies waive subrogation or consent to a waiver of right of recovery in favor of either party, its respective agents or employees. Having obtained such clauses and/or endorsements, each party hereby agrees that it will not make any claim against or seek to recover from the other or its agents or employees for any loss or damage to its property or the property of others resulting from fire or other perils covered by such property insurance.

20. CONDEMNATION-EMINENT DOMAIN

(a) In the event of any condemnation or taking in any manner for public or quasi-public use, which shall be deemed to include a voluntary conveyance in lieu of a taking (a "taking") of the whole of the Building, this Lease shall forthwith terminate as of the date when Tenant is required to vacate the Premises.

(b) Unless this Lease is terminated as provided herein, the Landlord, at its own expense, and proceeding with due diligence and all reasonable dispatch, but subject to delays beyond the reasonable control of Landlord, shall restore the remaining portion of the Premises (but not any Alterations made by or for Tenant, or any trade fixtures, equipment or personal property of Tenant) and the necessary portions of the Building as nearly as practicable to the same condition as it was prior to such taking, subject to zoning and building laws then in effect. Notwithstanding the foregoing, Landlord's obligation to restore the remaining portion of the Premises shall be limited to the extent of the condemnation proceeds (net of all costs and expenses incurred in connection with same) received by Landlord on account thereof. Landlord shall not be liable for any inconvenience or annoyance to Tenant or injury to the business of Tenant resulting from delays in restoring the Premises.

(c) In the event that only a part of the Premises or the Building shall be taken, then, if such taking is a substantial taking (as hereinafter defined), either Landlord or Tenant may by delivery of notice in writing to the other within sixty (60) days following the date on which Landlord's title has been divested by such authority, terminate this Lease, effective as of the date when Tenant is required to vacate any portion of the Premises or appurtenant rights. A "substantial taking" shall mean a taking which: requires restoration and repair of the remaining portion of the Building that cannot in the ordinary course be reasonably expected to be repaired within one hundred eighty (180) days; results in the loss of reasonable access to the Premises; results in the loss of more than twenty-five percent (25%) of the rentable floor area of the Premises.

(d) If this Lease is not terminated as aforesaid, then this Lease shall continue in full force and effect, provided if as a result of which there is material interference with the operation of Tenant's use of the Premises, then the Yearly Rent and Additional Rent payable by Tenant shall be justly and equitably abated and reduced according to the nature and extent of the loss of use thereof suffered by Tenant.

(e) Landlord shall have and hereby reserves and excepts, and Tenant hereby grants and assigns to Landlord, all rights to recover for damages to the Building and Land, and the leasehold interest hereby created (including any award made for the value of the estate vested by this Lease in Tenant), and

to compensation accrued or hereafter to accrue by reason of such taking, and by way of confirming the foregoing, Tenant hereby grants and assigns, and covenants with Landlord to grant and assign, to Landlord all rights to such damages of compensation. Nothing contained herein shall be construed to prevent Tenant from prosecuting in any condemnation proceedings a separate claim for the value of any of Tenant's personal property and for relocation expenses and business losses, provided that such action shall not affect the amount of compensation otherwise recoverable by Landlord from the taking authority.

Any dispute between the parties relating to the provisions or obligations in this Article 20 shall be submitted to arbitration pursuant to Article 29.5 hereof.

21. DEFAULT

21.1 **Conditions of Limitation-Re-Entry-Termination.** This Lease and the herein Term and estate are, upon the condition that if (a) subject to Article 21.7, Tenant shall neglect or fail to perform or observe any of the Tenant's covenants or agreements herein, including (without limitation) the covenants or agreements with regard to the payment when due of rent, additional charges, reimbursement for increase in Landlord's costs, or any other charge payable by Tenant to Landlord (all of which shall be considered as part of Yearly Rent for the purposes of invoking Landlord's statutory or other rights and remedies in respect of payment defaults); or (b) Tenant shall vacate, desert or abandon the Premises or the same shall become, or shall appear to have become, vacant (whether or not the keys shall have been surrendered) and Tenant shall cease to pay rent hereunder; or (c) Tenant shall be involved in financial difficulties as evidenced by an admission in writing by Tenant of Tenant's inability to pay its debts generally as they become due, or by the making or offering to make a composition of its debts with its creditors; or (d) Tenant shall make an assignment or trust mortgage, or other conveyance or transfer of like nature, of all or a substantial part of its property for the benefit of its creditors, or (e) an attachment on mesne process, on execution or otherwise, or other legal process shall issue against Tenant or its property and a sale of any of its assets shall be held thereunder; or (f) any judgment, final beyond appeal or any lien, attachment or the like shall be entered, recorded or filed against Tenant in any court, registry, etc. and Tenant shall fail to pay such judgment within thirty (30) days after the judgment shall have become final beyond appeal or to discharge or secure by surety bond such lien, attachment, etc. within thirty (30) days of such entry, recording or filing, as the case may be; or (g) the leasehold hereby created shall be taken on execution or by other process of law and shall not be revested in Tenant within thirty (30) days thereafter; or (h) a receiver, sequesterer, trustee or similar officer shall be appointed by a court of competent jurisdiction to take charge of all or any part of Tenant's property and such appointment shall not be vacated within thirty (30) days; or (i) any proceeding shall be instituted by or against Tenant pursuant to any of the provisions of any Act of Congress or State law relating to bankruptcy, reorganizations, arrangements, compositions or other relief from creditors, and, in the case of any proceeding instituted against it, if Tenant shall fail to have such proceedings dismissed within thirty (30) days or if Tenant is adjudged bankrupt or insolvent as a result of any such proceeding, or (j) any event shall occur or any contingency shall arise whereby this Lease, or the Term and estate thereby created, would (by operation of law or otherwise) devolve upon or pass to any person, firm or corporation other than Tenant, except as expressly permitted under Article 16 hereof - then, and in any such event Landlord may, by notice to Tenant, elect to terminate this Lease; and thereupon (and without prejudice to any remedies which might otherwise be available for arrears of rent or other charges due hereunder or preceding breach of covenant or agreement and without prejudice to Tenant's liability for damages as hereinafter stated), upon the giving of such notice, this Lease shall terminate as of the date specified therein as though that were the Termination Date as stated in Section 3.2. Without being taken or deemed to be guilty of any manner of trespass or conversion, and without being liable to indictment, prosecution or damages therefor, Landlord may, forcibly if necessary, enter into and upon the Premises (or any part thereof in the name of the whole); repossess the same as of its former estate; and expel Tenant and those claiming under Tenant. Wherever "Tenant" is used in subdivisions (c), (d), (e), (f), (g), (h) and (i) of this Article 21.1, it shall be deemed to include any one of (i) any corporation of which Tenant is a controlled

subsidiary and (ii) any guarantor of any of Tenant's obligations under this Lease. The words "re-entry" and "re-enter" as used in this Lease are not restricted to their technical legal meanings.

21,2 **Intentionally Omitted.**

21.3 **Damages-Termination**. Upon the termination of this Lease under the provisions of this Article 21, Tenant shall pay to Landlord the rent and other charges payable by Tenant to Landlord up to the time of such termination, shall continue to be liable for any preceding breach of covenant, and in addition, shall pay to Landlord as damages, at the election of Landlord

either:

(x) the amount by which, at the time of the termination of this Lease (or at any time thereafter if Landlord shall have initially elected damages under subparagraph (y), below), (i) the aggregate of the rent and other charges projected over the period commencing with such termination and ending on the Termination Date as stated in Exhibit 1 exceeds (ii) the aggregate projected fair market rental value of the Premises for such period;

or:

(y) amounts equal to the rent and other charges which would have been payable by Tenant had this Lease not been so terminated, payable upon the due dates therefor specified herein following such termination and until the Termination Date as specified in Exhibit 1, provided, however, if Landlord shall re-let the Premises during such period, that Landlord shall credit Tenant with the net rents received by Landlord from such re-letting, such net rents to be determined by first deducting from the gross rents as and when received by Landlord from such re-letting the expenses incurred or paid by Landlord in terminating this Lease, as well as the expenses of re-letting, including altering and preparing the Premises for new tenants, brokers' commissions, and all other similar and dissimilar expenses properly chargeable against the Premises and the rental therefrom, it being understood that any such re-letting may be for a period equal to or shorter or longer than the remaining Term of this Lease; and provided, further, that (i) in no event shall Tenant be entitled to receive any excess of such net rents over the sums payable by Tenant to Landlord hereunder and (ii) in no event shall Tenant be entitled in any suit for the collection of damages pursuant to this Subparagraph (y) to a credit in respect of any net rents from a re-letting except to the extent that such net rents are actually received by Landlord prior to the commencement of such suit. If the Premises or any part thereof should be re-let in combination with other space, then proper apportionment on a square foot area basis shall be made of the rent received from such re-letting and of the expenses of re-letting;

or:

(z) in lieu of any other damages or indemnity and in lieu of full recovery by Landlord of all sums payable under all this Section, Landlord may, by written notice to Tenant, at any time after termination of this Lease or repossession of the Premises, elect to recover, and Tenant shall thereupon pay, Liquidated Damages. "**Liquidated Damages**" **shall be equal to (a) the aggregate of the Yearly Rent and Additional Rent accrued in the twelve (12) months ended next prior to such termination or repossession (but not more than the Yearly Rent and Additional Rent due for the then remainder of the Term); plus (b) the amount of rent of any kind accrued and unpaid at the time of termination or repossession ; plus (c) the remaining unamortized cost of (i) Landlord's Work, (ii) the Supplemental Allowance (if any), and (iii) the monthly installments of Yearly Rent for the period from the Term Commencement Date through the day prior to the Yearly Rent Commencement Date at the rate payable during the first (1st) Lease Year.**

In calculating the rent and other charges under Subparagraph (x), above, there shall be included, in addition to the Yearly Rent, Tax Share and Operating Expense Share and all other considerations agreed to be paid or performed by Tenant, on the assumption that all such amounts and considerations would have remained constant (except as herein otherwise provided) for the balance of the full Term hereby granted.

Suit or suits for the recovery of such damages, or any installments thereof, may be brought by Landlord from time to time at its election, and nothing contained herein shall be deemed to require Landlord to postpone suit until the date when the Term of this Lease would have expired if it had not been terminated hereunder.

Nothing herein contained shall be construed as limiting or precluding the recovery by Landlord against Tenant of any sums or damages to which, in addition to the damages particularly provided above, Landlord may lawfully be entitled by reason of any default hereunder on the part of Tenant. Notwithstanding anything to the contrary, Landlord shall be entitled to recover, in addition to the rent and other charges under Subparagraph (x) or (y) above, any other amount necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to perform its obligations under the Lease or which in the ordinary course of things would be likely to result therefrom, including, but not limited to, the cost of recovering possession of the Premises, reasonable attorneys' fees, any real estate commissions actually paid by Landlord and the unamortized value of any free rent, reduced rent, tenant improvement allowance or other economic concessions provided by Landlord.

21.4 **Fees and Expenses.**

(a) If Tenant shall default in the performance of any covenant on Tenant's part to be performed as in this Lease contained, Landlord may immediately, or at any time thereafter, without notice, perform the same for the account of Tenant. If Landlord at any time is compelled to pay or elects to pay any sum of money, or do any act which will require the payment of any sum of money, by reason of the failure of Tenant to comply with any provision hereof, or if Landlord is compelled to or does incur any expense, including reasonable attorneys' fees, in instituting, prosecuting, and/or defending any action or proceeding instituted by reason of any default of Tenant hereunder, Tenant shall on demand pay to Landlord by way of reimbursement the sum or sums so paid by Landlord with all costs and damages, plus interest computed as provided in Article 6 hereof.

(b) Tenant shall pay Landlord's cost and expense, including reasonable attorneys' fees, incurred (i) in enforcing any obligation of Tenant under this Lease or (ii) as a result of Landlord, without its fault, being made party to any litigation pending by or against Tenant or any persons claiming through or under Tenant.

21.5 Waiver of Redemption. Tenant does hereby waive and surrender all rights and privileges which it might have under or by reason of any present or future law to redeem the Premises or to have a continuance of this Lease for the Term hereby demised after being dispossessed or ejected therefrom by process of law or under the terms of this Lease or after the termination of this Lease as herein provided.

21.6 **Landlord's Remedies Not Exclusive**. The specified remedies to which Landlord may resort hereunder are cumulative and are not intended to be exclusive of any remedies or means of redress to which Landlord may at any time be lawfully entitled, and Landlord may invoke any remedy (including the remedy of specific performance) allowed at law or in equity as if specific remedies were not herein provided for.

21.7 **Grace Period**. Notwithstanding anything to the contrary in this Article contained, Landlord agrees not to take any action to terminate this Lease (a) for default by Tenant in the payment when due of any sum of money, if Tenant shall cure such default within five (5) days after written notice thereof is given by Landlord to Tenant (the "Monetary Grace Period"), provided, however, that, at Landlord's option, no such notice need be given and no such default in the payment of money shall be curable if on two (2) prior occasions there had been a default in the payment of money which had been cured after notice thereof had been given by Landlord to Tenant as herein provided or (b) for default by Tenant in the performance of any covenant other than a covenant to pay a sum of money, if Tenant shall cure such default within a period of thirty (30) days after written notice thereof given by Landlord to Tenant (the "Non-Monetary Grace Period"; the Monetary Grace Period and the Nan-Monetary Grace Period may be referred to as a "Grace Period")(except where the nature of the default is such that remedial

action should appropriately take place sooner, as indicated in such written notice), or within such additional period as may reasonably be required to cure such default if (because of governmental restrictions or any other cause beyond the reasonable control of Tenant) the default is of such a nature that it cannot be cured within such thirty-(30)-day period, provided, however, (1) that there shall be no extension of time beyond such thirty-(30)-day period for the curing of any such default unless, not more than ten (10) days after the receipt of the notice of default, Tenant in writing (i) shall specify the cause on account of which the default cannot be cured during such period and shall advise Landlord of its intention duly to institute all steps necessary to cure the default and (ii) shall, as soon as reasonably practicable, duly institute and thereafter diligently prosecute to completion all steps necessary to cure such default and, (2) that no notice of the opportunity to cure a default need be given, and no Grace Period whatsoever shall be allowed to Tenant, if the default is incurable or if the covenant or condition the breach of which gave rise to default had, by reason of a breach on a prior occasion, been the subject of a notice hereunder to cure such default. Notwithstanding the foregoing, Tenant shall have no right to notice or the Non-Monetary Grace Period relating to its failure to (v) maintain all insurance as required in Article 15 above; (w) deliver to Landlord the Security Deposit as required by Section 29.13 below; (x) provide Landlord with Estoppel Certificates as required pursuant to Section 17.5 above; (y) provide Landlord with subordination agreements as required pursuant to Article 23 below; or (z) provide Landlord with the certificates of insurance required pursuant to Article 15 above.

Notwithstanding anything to the contrary in this Article 21.7 contained, except to the extent prohibited by applicable law, any statutory notice and grace periods provided to Tenant by law are hereby expressly waived by Tenant.

21.8 In addition to the other rights and remedies provided for in this Lease, if Tenant defaults in the performance of any obligation imposed on it by this Lease, and shall not cure such default within the period specified hereunder, including and applicable notice or Grace Period (as same may be extended as provided herein), then Landlord at any time thereafter may cure such default for the account of Tenant. Any amount paid by Landlord in the exercise of its rights under this Subsection shall be reimbursed by Tenant (with interest thereon at the Interest Rate from and after the due date) within thirty (30) days of invoice therefor, absent good faith dispute, failing which such amount may be offset against payments due from Landlord to Tenant until Landlord has been fully reimbursed. Notwithstanding the foregoing, Landlord may cure a default of Tenant prior to the expiration of the applicable Grace Period but after a cure period as is reasonable under the circumstances (but in no event shall such cure period exceed two (2) consecutive days) and after such notice (which may be verbal) to Tenant under any of the following circumstances: (w) if necessary to protect the interest of Landlord in the Premises or Building; (x) if necessary to prevent civil or criminal liability of Landlord; (y) if necessary to prevent an imminent and material interruption of the conduct of business in the Building, or (z) if necessary to prevent injury to persons or damage to property.

22. END OF TERM-ABANDONED PROPERTY

Upon the expiration or other termination of the Term of this Lease, Tenant shall peaceably quit and surrender to Landlord the Premises and all Alterations thereto, broom clean, in good order, repair and condition (except as provided herein and in Articles 8.7, 18 and 20) excepting only ordinary wear and use (as defined in Article 14.1 hereof) and damage by fire or other casualty for which, under other provisions of this Lease, Tenant has no responsibility of repair or restoration, and free of all Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by Tenant or any party taking by or through Tenant, including any assignee, subtenant, licensee, etc. and decommissioned as required pursuant to Section 29.11 below. Other than Landlord's Work (except to the extent Tenant requested a change to Landlord's Work, pursuant to Section 4, above, and Landlord conditioned approval of such change on Tenant removing a component thereof upon surrender), Tenant shall remove all of its property, including, without limitation, all laboratory equipment, all telecommunication, computer and other cabling installed by or on behalf of Tenant in the Premises or elsewhere in the Building (provided that Tenant can request permission to leave any such wiring/cabling which Landlord may grant or deny at Landlord's sole discretion)**,** and, to the extent specified by Landlord at or about the time of its approval or consent thereto (as provided above), all Alterations made by Tenant

and all partitions made by Tenant wholly within the Premises, and shall repair any damages to the Premises or the Building caused by their installation or by such removal. Tenant's obligation to observe or perform this covenant shall survive the expiration or other termination of the Term of this Lease. At least two (2) months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any Alterations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any impact from the Tenant's use or occupancy of the Premises including the presence of Hazardous Materials used, stored, generated or disposed of therein by Tenant or anyone operating by, though, on behalf of, or under Tenant (the "Surrender Plan"). Such Surrender Plan shall be accompanied by a current listing of (a) all Hazardous Materials licenses and permits held by or on behalf of any Tenant with respect to the Premises, and (b) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises by or on behalf of Tenant or anyone operating by, through, on behalf of, or under Tenant, and shall be subject to the review and approval of Landlord's environmental consultant.

Tenant will remove any personal property from the Building and the Premises upon or prior to the expiration or termination of this Lease and any such property which shall remain in the Building or the Premises thereafter shall be conclusively deemed to have been abandoned, and may either be retained by Landlord as its property or sold or otherwise disposed of in such manner as Landlord may see fit. If any part thereof shall be sold, Landlord may receive and retain the proceeds of such sale and apply the same, at its option, against the expenses of the sale, the cost of moving and storage, any arrears of Yearly Rent, additional or other charges payable hereunder by Tenant to Landlord and any damages to which Landlord may be entitled under Article 21 hereof or pursuant to law.

If Tenant or anyone claiming under Tenant shall remain in possession of the Premises or any part thereof after the expiration or prior termination of the Term of this Lease without any agreement in writing between Landlord and Tenant with respect thereto, then, prior to the acceptance of any payments for rent or use and occupancy by Landlord, the person remaining in possession shall be deemed a tenant-at-sufferance. Whereas the parties hereby acknowledge that Landlord may need the Premises after the expiration or prior termination of the Term of the Lease for other tenants and that the damages which Landlord may suffer as the result of Tenant's holding-over cannot be determined as of the Execution Date hereof, in the event that Tenant so holds over, Tenant shall pay to Landlord in addition to all rental and other charges due and accrued under the Lease prior to the date of termination, charges for use and occupancy of the Premises thereafter, in the amount of one hundred fifty percent (150%) of the Yearly Rent payable for the Lease Year in effect prior to such holding over plus all additional rent and charges that would have been payable had the Term of the lease continued (including, without limitation, Tenant's Operating Expense Share and Tax Share), all calculated on a daily basis, measured from the day on which Tenant's hold-over commenced and terminating on the day on which Tenant vacates the Premises. In addition, Tenant shall save Landlord, its agents and employees, harmless and will exonerate, defend and indemnify Landlord, its agents and employees, from and against any and all damages which Landlord may suffer on account of Tenant's hold-over in the Premises after the expiration or prior termination of the Term of the Lease, including, without limitation, consequential damages, provided however that in no event shall Tenant be liable for any special or punitive damages.

23. SUBORDINATION

23.1 Subject to the terms and conditions, and subject to any mortgagee's or ground lessor's election as hereinafter provided for, this Lease, and all rights of Tenant hereunder, are subject and subordinate in all respects to all matters of record (including, without limitation, deeds and land disposition agreements); ground leases and/or underlying leases; and all mortgages, any of which may now or hereafter be placed on or affect such leases and/or the real property of which the Premises are a part, or any part of such real property, and/or Landlord's interest or estate therein, and to each advance made and/or hereafter to be made under any such mortgages, and to all renewals, modifications, consolidations, replacements and extensions thereof and all substitutions therefor. This Article 23 shall be self-operative and no further instrument or subordination shall be required. In confirmation of such subordination, Tenant shall execute, acknowledge and deliver promptly any certificate or instrument that Landlord and/or any mortgagee and/or lessor under any ground or underlying lease and/or their respective successors in interest may request, subject to Landlord's, mortgagee's and ground lessor's right to do so for, on behalf and in the name of Tenant under certain circumstances, as hereinafter provided. Tenant acknowledges that, where applicable, any consent or approval hereafter given by Landlord may be subject to the further consent or approval of such mortgagee and/or ground lessor; and the failure or refusal of such mortgagee and/or ground lessor to give such consent or approval shall, notwithstanding anything to the contrary in this Lease contained, constitute reasonable justification for Landlord's withholding its consent or approval.

23.2 Any such mortgagee or ground lessor may from time to time subordinate or revoke any such subordination of the mortgage or ground lease held by it to this Lease. Such subordination or revocation, as the case may be, shall be effected by written notice to Tenant and by recording an instrument of subordination or of such revocation, as the case may be, with the appropriate registry of deeds or land records and to be effective without any further act or deed on the part of Tenant. In confirmation of such subordination or of such revocation, as the case may be, Tenant shall execute, acknowledge and promptly deliver any certificate or instrument that Landlord, any mortgagee or ground lessor may request, subject to Landlord's, mortgagee's and ground lessor's right to do so for, on behalf and in the name of Tenant under certain circumstances, as hereinafter provided.

23.3 Without limitation of any of the provisions of this Lease, if any ground lessor or mortgagee shall succeed to the interest of Landlord by reason of the exercise of its rights under such ground lease or mortgage (or the acceptance of voluntary conveyance in lieu thereof) or any third party (including, without limitation, any foreclosure purchaser or mortgage receiver) shall succeed to such interest by reason of any such exercise or the expiration or sooner termination of such ground lease, however caused, then such successor may at its election, upon notice and request to Tenant (which, in the case of a ground lease, shall be within thirty (30) days after such expiration or sooner termination), succeed to the interest of Landlord under this Lease, provided, however, that such successor shall not: (i) be liable for any previous act or omission of Landlord under this Lease; (ii) be subject to any offset, defense, or counterclaim which shall theretofore have accrued to Tenant against Landlord; (iii) have any obligation with respect to any security deposit unless it shall have been paid over or physically delivered to such successor; or (iv) be bound by any previous modification of this Lease or by any previous payment of Yearly Rent for a period greater than one (1) month, made without such ground lessor's or mortgagee's consent where such consent is required by applicable ground lease or mortgage documents. In the event of such succession to the interest of the Landlord - and notwithstanding that any such mortgage or ground lease may antedate this Lease - the Tenant shall attorn to such successor and shall ipso facto be and become bound directly to such successor in interest to Landlord to perform and observe all the Tenant's obligations under this Lease without the necessity of the execution of any further instrument and such successor shall have the benefit of all of Landlord's rights and protections hereunder, including, without limitation, under Section 26(b). Nevertheless, Tenant agrees at any time and from time to time during the Term hereof to execute a suitable instrument in confirmation of Tenant's agreement to attorn, as aforesaid, subject to Landlord's, mortgagee's and ground lessor's right to do so for, on behalf and in the name of Tenant under certain circumstances, as expressly provided in Section 23.6, below.

23.4 The term "mortgage(s)" as used in this Lease shall include any mortgage or deed of trust. The term "mortgagee(s)" as used in this Lease shall include any mortgagee or any trustee and beneficiary under a deed of trust or receiver appointed under a mortgage or deed of trust. The term "mortgagors)" as used in this Lease shall include any mortgagor or any grantor under a deed of trust.

23.5 Tenant shall not, by any act or omission, cause Landlord to be in violation of or in default under the Supplemental Parking Lease(s), or do or permit, any act that is in violation of Supplemental Parking Lease(s).

23.6 Landlord agrees to use commercially reasonable efforts to obtain a subordination, non- disturbance and attornment agreement ("SNDA") from its present mortgagee in form and substance of that attached hereto as Exhibit 11 (without the revisions depicted on page 1 thereof, provided that Landlord shall request that its mortgagee accept the revisions depicted thereon) and to request and obtain an SNDA from any future mortgagee, based upon such mortgagee's standard form (with mutually agreeable modifications thereto); provided, however, Landlord's inability to obtain such any such SNDA, despite having made request therefor, shall in no way affect Tenant's obligations under this Lease and in no way constitutes a default by Landlord under this Lease. Tenant hereby irrevocably constitutes and appoints Landlord or any such mortgagee or ground lessor, and their respective successors in interest, acting singly, Tenant's attorney-in-fact to execute and deliver any such certificate or instrument for, on behalf and in the name of Tenant, but only if Tenant fails to execute, acknowledge and deliver any such certificate or instrument within ten (10) days after Landlord or such mortgagee or such ground lessor has made written request therefor which notice days provided such request (or subsequent request) includes *within the written request, the statement (in a reasonably large size font and in bold*) *that Tenant's failure to respond to the request within ten (10) days after receipt thereof shall be deemed consent to the requestor executing and delivering the enclosed for, on behalf and in the name of Tenant, as Tenant's attorney-in-fact, pursuant to Section 23.6 of the Lease.* The time periods set forth herein shall be extended for any days reasonably necessary for Tenant to diligently and in good faith request reasonable modifications to such form.

23.7 Notwithstanding anything to the contrary contained in this Article 23, if all or part of Landlord's estate and interest in the real property of which the Premises are a part shall be a leasehold estate held under a ground lease, then: (i) the foregoing subordination provisions of this Article 23 shall not apply to any mortgages of the fee interest in said real property to which Landlord's leasehold estate is not otherwise subject and subordinate; and (ii) the provisions of this Article 23 shall in no way waive, abrogate or otherwise affect any agreement by any ground lessor (x) not to terminate this Lease incident to any termination of such ground lease prior to its term expiring or (y) not to name or join Tenant in any action or proceeding by such ground lessor to recover possession of such real property or for any other relief.

23.8 In the event of any failure by Landlord to perform, fulfill or observe any agreement by Landlord herein, in no event will the Landlord be deemed to be in default under this Lease permitting Tenant to exercise any or all rights or remedies under this Lease until the Tenant shall have given written notice of such failure to any mortgagee (ground lessor and/or trustee) of which Tenant shall have been advised and until a reasonable period of time shall have elapsed following the giving of such notice, during which such mortgagee (ground lessor and/or trustee) shall have the right, but shall not be obligated, to remedy such failure.

24. QUIET ENJOYMENT

Landlord covenants that if, and so long as, Tenant keeps and performs each and every covenant, agreement, term, provision and condition herein contained on the part and on behalf of Tenant to be kept and performed, Tenant shall quietly enjoy the Premises from and against the claims of all persons claiming by, through or under Landlord subject, nevertheless, to the covenants, agreements, terms, provisions and conditions of this Lease and to the mortgages, ground leases and/or underlying leases to which this Lease is subject and subordinate, as hereinabove set forth.

Without incurring any liability to Tenant, Landlord may permit access to the Premises and open the same, whether or not Tenant shall be present, upon any demand of any receiver, trustee, assignee for the benefit of creditors, sheriff, marshal or court officer entitled to, or reasonably purporting to be entitled to, such access for the purpose of taking possession of, or removing, Tenant's property or for any other lawful purpose (but this provision and any action by Landlord hereunder shall not be deemed a recognition by Landlord that the person or official making such demand has any right or interest in or to this Lease, or in or to the Premises), or upon demand of any representative of the fire, police, building, sanitation or other department of the city, state or federal governments.

25.ENTIRE AGREEMENT-WAIVER-SURRENDER

25.1 **Entire Agreement.** This Lease and the Exhibits made a part hereof contain the entire and only agreement between the parties and any and all statements and representations, written and oral, including previous correspondence and agreements between the parties hereto, are merged herein. Tenant acknowledges that all representations and statements upon which it relied in executing this Lease are contained herein and that the Tenant in no way relied upon any other statements or representations, written or oral. Any executory agreement hereafter made shall be ineffective to change, modify, discharge or effect an abandonment of this Lease in whole or in part unless such executory agreement is in writing and signed by the party against whom enforcement of the change, modification, discharge or abandonment is sought.

25.2 **Waiver by Landlord.** The failure of Landlord to seek redress for violation, or to insist upon the strict performance, of any covenant or condition of this Lease, or any of the Rules and Regulations promulgated hereunder, shall not prevent a subsequent act, which would have originally constituted a violation, from having all the force and effect of an original violation. The receipt by Landlord of rent with knowledge of the breach of any covenant of this Lease shall not be deemed a waiver of such breach. The failure of Landlord to enforce any of such Rules and Regulations against Tenant and/or any other tenant in the Building shall not be deemed a waiver of any such Rules and Regulations. No provisions of this Lease shall be deemed to have been waived by Landlord unless such waiver be in writing signed by Landlord. No payment by Tenant or receipt by Landlord of a lesser amount than the monthly rent herein stipulated shall be deemed to be other than on account of the stipulated 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 in this Lease provided.

25.3 **Surrender.** No act or thing done by Landlord during the Term hereby demised shall be deemed an acceptance of a surrender of the Premises, and no agreement to accept such surrender shall be valid, unless in writing signed by Landlord. No employee of Landlord or of Landlord's agents shall have any power to accept the keys of the Premises prior to the termination of this Lease. The delivery of keys to any employee of Landlord or of Landlord's agents shall not operate as a termination of the Lease or a surrender of the Premises. In the event that Tenant at any time desires to have Landlord underlet the Premises for Tenant's account, Landlord or Landlord's agents are authorized to receive the keys for such purposes without releasing Tenant from any of the obligations under this Lease, and Tenant hereby relieves Landlord of any liability for loss of or damage to any of Tenant's effects in connection with such underletting.

26. INABILITY TO PERFORM-EXCULPATORY CLAUSE

26.1 Except as provided in Articles 4.1 and 4.2 hereof, this Lease and the obligations of Tenant to pay rent hereunder and perform all the other covenants, agreements, terms, provisions and conditions hereunder on the part of Tenant to be performed shall in no way be affected, impaired or excused because Landlord is unable to fulfill any of its obligations under this Lease or is unable to supply or is delayed in supplying any service expressly or impliedly to be supplied or is unable to make or is delayed in making any repairs, replacements, additions, alterations, improvements or decorations or is unable to supply or is delayed in supplying any equipment or fixtures if Landlord is prevented or delayed from so doing in each case by reason of event(s) of Force Majeure. In each such instance of inability of Landlord to perform, Landlord shall exercise reasonable diligence to eliminate the cause of such inability to perform. As used in this Lease, an event or events of "Force Majeure" shall include strike or labor troubles, lockout, breakdown, accident, order, preemption or regulation of or by any governmental authority or failure to supply or inability by the exercise of reasonable diligence to obtain supplies, parts or employees necessary to furnish such services or because of war, civil commotion, or other emergency, or other extraordinary conditions of supply and demand, extraordinary weather conditions, so-called acts of God, or for any other cause beyond the party's reasonable control.

26.2 Tenant shall neither assert nor seek to enforce any claim against Landlord, or Landlord's agents or employees, or the assets of Landlord or of Landlord's agents or employees, for breach of this Lease or otherwise, other than against Landlord's interest in the Building of which the Premises are a part and in the uncollected rents, issues and profits thereof, and Tenant agrees to look solely to such interest for the satisfaction of any liability of Landlord under this Lease, it being specifically agreed that in no event shall Landlord or Landlord's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, members, stockholders or other principals or representatives, and the like, disclosed or undisclosed, thereof) ever be personally liable for any such liability. This paragraph shall not limit any right that Tenant might otherwise have to obtain injunctive relief against Landlord or to take any other action which shall not involve the personal liability of Landlord to respond in monetary damages from Landlord's assets other than the Landlord's interest in said real estate, as aforesaid. In no event shall Landlord or Landlord's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, members, stockholders or other principals or representatives and the like, disclosed or undisclosed, thereof) ever be liable for consequential or incidental damages. Without limiting the foregoing, in no event shall Landlord or Landlord's agents or employees (or any of the officers, trustees, directors, partners, beneficiaries, joint venturers, two managers, members, stockholders or other principals or representatives and the like, disclosed or undisclosed, thereof) ever be liable for lost profits of Tenant.

26.3 Landlord shall not be deemed to be in default of its obligations under the Lease unless Tenant has given Landlord written notice of such default, and Landlord has failed to cure such default within thirty (30) days after Landlord receives such notice or such longer period of time as Landlord may reasonably require to cure such default. Except as otherwise expressly provided in this Lease, in no event shall Tenant have the right to terminate the Lease nor shall Tenant's obligation to pay Yearly Rent or other charges under this Lease abate based upon any default by Landlord of its obligations under the Lease.

27. BILLS AND NOTICES

Any notice, consent, request, bill, demand or statement hereunder by either party to the other party shall be in writing and, if received at Landlord's or Tenant's address, shall be deemed to have been duly given when either delivered or served personally or sent via overnight mail (via nationally recognized courier) or mailed by first class mail postage paid certified or registered mail return receipt requested, addressed to Landlord at its address as stated in Exhibit 1 with a copy to Landlord, c/o Related Fund Management, 30 Hudson Yards, New York, NY 10002; ATTN: Patrick Sweeney and a copy to Sherin and Lodgen LLP, 101 Federal Street, Boston, Massachusetts 02110, ATTN: Robert M. Carney, and to Tenant at the Premises (or at Tenant's address as stated in Exhibit 1, if mailed prior to Tenant's occupancy of the Premises), and a copy to Cooley LLP, 3175 Hanover Street, Palo Alto, CA 94304-1130, Attn: Michael Tenta (email address: mtenta@cooley.com) or if any address for notices shall have been duly changed as hereinafter provided, if mailed as aforesaid to the party at such changed address. Either party may at any time change the address or specify an additional address for such notices, consents, requests, bills, demands or statements by delivering or mailing, as aforesaid, to the other party a notice stating the change and setting forth the changed or additional address, provided such changed or additional address is within the United States.

If Tenant is a partnership, Tenant, for itself, and on behalf of all of its partners, hereby appoints Tenant's Service Partner, as identified on Exhibit 1, to accept service of any notice, consent, request, bill, demand or statement hereunder by Landlord and any service of process in any judicial proceeding with respect to this Lease on behalf of Tenant and as agent and attorney-in-fact for each partner of Tenant.

All bills and statements for reimbursement or other payments or charges due from Tenant to Landlord hereunder shall be due and payable in full ten (10) days, unless herein otherwise provided, after submission thereof by Landlord to Tenant. Tenant's failure to make timely payment of any amounts indicated by such bills and statements, whether for work done by Landlord at Tenant's request, reimbursement provided for by this Lease or for any other sums properly owing by Tenant to Landlord, shall be treated as a default in the payment of rent, in which event Landlord shall have all rights and remedies provided in this Lease for the nonpayment of rent.

28. PARTIES BOUND-SEIZING OF TITLE

The covenants, agreements, terms, provisions and conditions of this Lease shall bind and benefit the successors and assigns of the parties hereto with the same effect as if mentioned in each instance where a party hereto is named or referred to, except that no violation of the provisions of Article 16 hereof shall operate to vest any rights in any successor or assignee of Tenant and that the provisions of this Article 28 shall not be construed as modifying the conditions of limitation contained in Article 21 hereof.

If, in connection with or as a consequence of the sale, transfer or other disposition of the real estate (land and/or Building, either or both, as the case may be) of which the Premises are a part, Landlord ceases to be the owner of the reversionary interest in the Premises, Landlord shall be entirely freed and relieved from the performance and observance thereafter of all covenants and obligations hereunder on the part of Landlord to be performed and observed, it being understood and agreed in such event (and it shall be deemed and construed as a covenant running with the land) that the person succeeding to Landlord's ownership of said reversionary interest shall thereupon and thereafter assume, and perform and observe, any and all of such covenants and obligations of Landlord.

29. MISCELLANEOUS

29. 1 **Separability.** If any provision of this Lease or portion of such provision or the application thereof to any person or circumstance is for any reason held invalid or unenforceable, the remainder of the Lease (or the remainder of such provision) and the application thereof to other persons or circumstances shall not be affected thereby.

29. 2 **Captions, etc.** The captions are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of this Lease nor the intent of any provisions thereof. References to "State" shall mean, where appropriate, the Commonwealth of Massachusetts.

29.3 **Broker.** Landlord and Tenant each represents and warrants that it has not directly or indirectly dealt with any broker, agent or other person (collectively, "Broker") **i**n connection with this transaction called to other space in the Building), and that no Broker brought about this transaction, other than the broker(s) designated in Exhibit 1. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against claims for a commission arising out of the execution and delivery of this Lease or out of negotiations between Landlord and Tenant with respect to the leasing of other space in the Building, etc., other than claims from the brokers designated in Exhibit 1; Landlord shall be solely responsible for the payment of brokerage commissions to the brokers designated in Exhibit 1, pursuant to a separate agreement.

29.4 **Modifications.** If in connection with obtaining financing for the Building, a bank, insurance company, pension trust or other institutional lender shall request reasonable modifications in this Lease as a condition to such financing, Tenant will not withhold, delay or condition its consent thereto, provided that such modifications do not increase the obligations of Tenant hereunder or materially adversely affect the leasehold interest hereby created.

29.5 **[Intentionally Deleted].**

29.6 **Governing Law.** This Lease is made pursuant to, and shall be governed by, and construed in accordance with, the laws of the State wherein the Building is situated and any applicable local municipal rules, regulations, by-laws, ordinances and the like.

29.7 **Assignment of Rents.** With reference to any assignment by Landlord of its interest in this Lease, or the rents payable hereunder, conditional in nature or otherwise, which assignment is made to or held by a bank, trust company, insurance company or other institutional lender holding a mortgage or ground lease on the Building, Tenant agrees:

(a) that the execution thereof by Landlord and the acceptance thereof by such mortgagee and/or ground lessor shall never be deemed an assumption by such mortgagee and/or ground lessor of any of the obligations of the Landlord hereunder, unless such mortgagee and/or ground lessor shall, by written notice sent to the Tenant, specifically otherwise elect; and

(b) that, except as aforesaid, such mortgagee and/or ground lessor shall be treated as having assumed the Landlord's obligations hereunder only upon foreclosure of such mortgagee's mortgage or deed of trust or termination of such ground lessor's ground lease and the taking of possession of the Premises after having given notice of its exercise of the option stated in Article 23 hereof to succeed to the interest of the Landlord under this Lease.

29.8 **Representation of Authority**. By his or her execution hereof the signatories on behalf of Landlord and Tenant each hereby warrants and represents that, in their capacity as an officer of their company and not in their individual capacity, he or she is duly authorized to execute this Lease on behalf of such party,

29.9 **Expenses Incurred by Landlord Upon Tenant Request**s. Tenant shall, upon demand, reimburse Landlord for all reasonable and actual expenses, including, without limitation, legal fees, incurred by Landlord in connection with all requests by Tenant for consents, approvals or execution of collateral documentation related to this Lease, including, without limitation, costs incurred by Landlord in the review and approval of Tenant's plans and specifications in connection with proposed Alterations to be made by Tenant to the Premises, requests by Tenant to sublet the Premises or assign its interest in the Lease (subject to the limitations set forth in this Lease with regard thereto), the execution by Landlord of estoppel certificates requested by Tenant, and requests by Tenant for Landlord to execute waivers of Landlord's interest in Tenant's property in connection with third party financing by Tenant. Such costs shall be deemed to be Additional Rent under the Lease.

29,10 **Survival**. Without limiting any other obligation of the Tenant which may survive the expiration or prior termination of the Term of the Lease, all obligations on the part of Tenant to indemnify, defend, or hold Landlord harmless, as set forth in this Lease (including, without limitation, Tenant's obligations under Articles 13(d), 15.3, and 29.3) shall survive the expiration or prior termination of the Term of the Lease for the applicable statute of limitations period under federal, state, or local Legal Requirement.

29.11 **Hazardous Materials**. Landlord and Tenant agree as follows with respect to the existence or use of "Hazardous Material" in, on or about the Premises, Building the Land.

(a) Tenant, at its sole cost and expense, shall comply with all laws, statutes, ordinances, rules and regulations of any local, state or federal governmental authority having jurisdiction concerning environmental, health and safety matters (collectively, "Environmental Laws"), including, but not limited to, any discharge (x) by Tenant, (y) by any party claiming by, through or under Tenant and/or (z) discharge from the Premises during the Term (or any period prior to or following the Term in which Tenant takes early possession or remains in possession of any portion of the Premises), in all such cases into the air, surface, water, sewers, soil or groundwater of any Hazardous Material (as defined below), whether within or outside the Premises within the Building and Land. Notwithstanding the foregoing, nothing contained in this Lease requires, or shall be construed to require, Tenant to incur any liability related to or arising from environmental conditions (i) for which the Landlord is responsible pursuant to the terms of this Lease, (ii) for which any other tenant is responsible pursuant to the terms of its lease, or (iii) which existed within the Premises or the Building and Land prior to the date Tenant takes possession of, or enters, the Premises, provided, however, that if any such environmental condition was exacerbated by Tenant (or Tenant's contractors, subcontractors, agents, subtenants, assigns, etc.), the cost (and any delays resulting therefrom) of the liability therefor and any such removal or remediation shall be equitably

borne by Landlord and Tenant based upon the degree to which Tenant's (or such other Tenant parties') actions have increased the cost of such removal or remediation. Tenant shall comply with all applicable Legal Requirements (including applicable zoning and building code requirements and Landlord's reasonable quantity limitations to provide for multiple tenant use and compliance applicable to the Building area and/or the so-called "control area" therein) pertaining to the transportation, storage, use or disposal of such Hazardous Materials. Tenant is required to adhere to and comply with the allowable quantities of Hazardous Materials that are allocated to them by the Landlord's flammable matrix, from time to time (the current version of which is attached hereto as Exhibit 10-A). Landlord consents to Tenant's use of the Hazardous Materials in the quantities listed in Exhibit 10-B.

(b) Tenant shall not cause or permit any Hazardous Material to be brought upon, kept or used in or about the Premises or otherwise in, on or at the Building and Land by Tenant, its agents, employees, contractors or invitees, without the prior written consent of Landlord, except for Hazardous Materials which are typically used in the operation of offices or laboratories, provided that such materials are stored, used and disposed of in strict compliance with all applicable Environmental Laws and with good scientific and medical practice. Within five (5) business days of Landlord's request, but not more than once in any 12-month period (unless Landlord has reason to believe that Tenant's usage of Hazardous Materials has changed or as required in connection with financing or sale of the Building), Tenant shall provide Landlord with a list of all Hazardous Materials, including quantities used and such other information as Landlord may reasonably request, used by Tenant in the Premises or otherwise in, at or under the Building and Land. Notwithstanding the foregoing, with respect to any of Tenant's Hazardous Materials which Tenant does not properly handle, store or dispose of in compliance with all applicable Environmental Laws and good scientific and medical practice, Tenant shall, upon written notice from Landlord, no longer have the right to bring such material into the Premises, Building of which the Premises is a part or the Land until Tenant has demonstrated, to Landlord's reasonable satisfaction, that Tenant has implemented programs to thereafter properly handle, store or dispose of such material.

(c) As used herein, the term "Hazardous Material" means any hazardous or toxic substances, hazardous waste, environmental, biological, chemical, radioactive substances, oil, petroleum products and any waste or substance, which because of its quantitative concentration, chemical, biological, radioactive, flammable, explosive, infectious or other characteristics, constitutes or may reasonably be expected to constitute or contribute to a danger or hazard to public health, safety or welfare or to the environment, or that would trigger any employee or community "right-to-know" requirements adopted by any federal, state or local governing or regulatory body or which is or otherwise becomes regulated by any Environmental Law, including but not limited to the Massachusetts "Right to Know" Law, Chapter 111F of the General Laws of Massachusetts, specifically including live organisms, viruses and fungi, Medical Waste (as defined below), and so-called "biohazard" materials. The term "Hazardous Material" includes, without limitation, any material or substance which is (i) designated as a "hazardous substance" pursuant to Section 1311 of the Federal Water Pollution Control Act (33 U.S.C. Section 1317), (ii) defined as a "hazardous waste" pursuant to Section 1004 of the Federal Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq. (42 U.S.C. Section 6903), (iii) defined as a "hazardous substance" pursuant to Section 101 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq. (42 U.S.C. Section 9601), (iv) defined as "hazardous substance" or "oil" under Chapter 21E of the General Laws of Massachusetts, or (v) a so-called "biohazard" or Medical Waste, or is contaminated with blood or other bodily fluids; and "Environmental Laws" include, without limitation, the laws listed in the preceding clauses (i) through (iv). The term "Medical Waste" shall mean the types of waste described in any federal, state or local laws, rules and regulations and any similar type of waste. Tenant shall not cause or permit any Medical Waste to be brought, kept or used in or about the Premises or the Project by Tenant, its employees, agents, contractors or invitees except in strict compliance with all applicable Environmental Laws and with good scientific and medical practice. Tenant shall comply with all applicable and appropriate laboratory biosafety level criteria, requirements and recommendations including specific "BSL" limitations, standards, practices, safety equipment and facility requirements for the applicable BSL level pursuant to the Center for Disease Control and otherwise consistent with good scientific and medical practice (and in no event shall Tenant's use or occupancy involve activities that would qualify or be characterized or categorized as BSL 3 or BSL 4. Information can be found at: https://www.cdc.gov/biosafety/publications/bmbl5/bmbl5_sect_iv.pdf.

(d) Any increase in the premium for necessary insurance on the Premises or the Building and Land which arises from Tenant's use and/or storage of these Hazardous Materials shall be solely at Tenant's expense. Tenant shall procure and maintain at its sole expense such additional insurance as may be necessary to comply with any requirement of any federal, state or local government agency with jurisdiction.

(e) Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant shall clean and otherwise decommission all interior surfaces (including floors, walls, ceilings, and counters), piping, supply lines, waste lines, acid neutralization system (excluding the Neutralization System, but not excluding the supply lines from the Premises thereto) and plumbing in and/or exclusively serving the Premises, and all exhaust or other ductwork in and/or exclusively serving the Premises, in each case which has carried or released or been exposed to any Hazardous Material, and shall otherwise clean the Premises (to the point of ceiling penetration) so as to permit the report hereinafter called for by this Section 29.11 (e) to be issued. Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant, at Tenant's expense, shall obtain for Landlord a report addressed to Landlord and Landlord's designees (and, at Tenant's election, Tenant) by a reputable licensed environmental engineer or certified industrial hygienist that, in either case, is designated by Tenant and acceptable to Landlord in Landlord's reasonable discretion, which report shall be based on the environmental engineer's or industrial hygienist's inspection of the Premises and shall show: that the Hazardous Materials, to the extent, if any, existing prior to such decommissioning, have been removed as necessary so that the interior surfaces of the Premises (including but not limited to floors, walls, ceilings, and counters), piping, supply lines, waste lines and plumbing, and all such exhaust or other ductwork in and/or exclusively serving the Premises, may be reused by a subsequent tenant or disposed of in compliance with applicable Environmental Laws without taking any special precautions for Hazardous Materials, without incurring special costs or undertaking special procedures for demolition, disposal, investigation, assessment, cleaning or removal of Hazardous Materials and without incurring regulatory compliance requirements or giving notice in connection with Hazardous Materials; and that the Premises may be reoccupied for office, research or laboratory use, demolished or renovated without taking any special precautions for Hazardous Materials, without incurring special costs or undertaking special procedures for disposal, investigation, assessment, cleaning or removal of Hazardous Materials and without incurring regulatory requirements or giving notice in connection with Environmental Substances. Further, for purposes of this Section: "special costs" or "special procedures" shall mean costs or procedures, as the case may be, that would not be incurred but for the nature of the Hazardous Materials as Hazardous Materials instead of non-hazardous materials. The report shall include reasonable detail concerning the clean-up location, the tests run and the analytic results. In addition, to the extent Tenant (or any party taking by or through Tenant) used, stored, generated or disposed of any radioactive or radiological substances on or about the Premises, such decommissioning shall also be conducted in accordance with the regulations of the U.S. Nuclear Regulatory Commission and/or the Massachusetts Department of Public Health for the control of radiation, and cause the Premises to be released for unrestricted use by the Radiation Control Program of the Massachusetts Department of Public Health for the control of radiation, and deliver to Landlord the report of a certified industrial hygienist stating that he or she has examined the Premises (including visual inspection, Geiger counter evaluation and airborne and surface monitoring) and found no evidence that such portion contains Hazardous Materials or is otherwise in violation of any Environmental Law. If Tenant fails to perform its obligations under this Section, without limiting any other right or remedy, Landlord may, on not less than five (5) business days' prior written notice to Tenant perform such obligations at Tenant's expense, and Tenant shall promptly reimburse Landlord upon demand for all costs and expenses reasonably incurred together with an administrative charge of 10% of the cost thereof. Tenant's obligations under this Section shall survive the expiration or earlier termination of this Lease for the applicable statute of limitations period under federal, state, or local Legal Requirement.

(f) Prior to the expiration of this Lease (or within thirty (30) days after any earlier termination), Tenant shall provide to Landlord a copy of its most current chemical waste removal manifest and a certification from Tenant executed by an officer of Tenant that no Hazardous Materials or other potentially dangerous or harmful chemicals brought onto the Premises from and after the date that Tenant first took occupancy of the Premises remain in the Premises.

(g) Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or governmental authority at any time to take remedial action (other than standard decommissioning in accordance with such landlord's standard practices) in connection with Hazardous Materials contaminating a property which contamination was permitted by Tenant of such predecessor or resulted from Tenant's or such predecessor's action or use of the property in question, other than standard decommissioning in accordance with such landlord's standard practices (which standard decommissioning was not required due to a violation of the lease), and (ii) Tenant is not subject to any enforcement order issued by any governmental authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any governmental authority). If Landlord determines that this representation and warranty was not true as of the date of this Lease, Landlord shall have the right to terminate this Lease in Landlord's sole and absolute discretion.

(h) Landlord shall have the right to conduct annual tests of the Premises to determine whether any contamination of the Premises, the Building or the Land has occurred as a result of Tenant's use. Tenant shall be required to pay the cost of such annual test of the Premises if there is violation of this Section 29.11 or if contamination for which Tenant is responsible under this Section 29.11 is identified; provided, however, that if Tenant conducts its own tests of the Premises using third party contractors and test procedures acceptable to Landlord which tests are certified to Landlord, Landlord shall accept such tests in lieu of the annual tests to be paid for by Tenant. In addition, at any time, and from time to time, prior to the expiration or earlier termination of the Term, Landlord shall have the right to conduct appropriate tests of the Premises, the Building and the Land to determine if contamination has occurred as a result of Tenant's use or occupancy of the Premises. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such nonproprietary information concerning the use of Hazardous Materials in, on or about the Premises by Tenant or any party taking by or through Tenant. If contamination has occurred for which Tenant is liable under this Section 29.11, Tenant shall pay all costs to conduct such tests; otherwise, such tests shall be paid for by Landlord. If no such contamination is found, Landlord shall pay the costs of such tests.

(i) Within ten (10) business days following Landlord's written request but not more than once in any 12-month period (unless Landlord has reason to believe that Tenant's usage of Hazardous Materials has changed or as required in connection with financing or sale of the Building), Tenant shall provide Landlord with any information requested by Landlord concerning the existence, use, generation or disposal of Hazardous Materials and/or Medical Waste at the Premises, including, but not limited to, the following information: (a) the name, address and telephone number of the person or entity employed by Tenant to dispose of its Hazardous Materials and/or Medical Waste, including a copy of any contract with said person or entity, (b) all relevant information relating to such materials (e.g., a list of each type of Hazardous Materials and/or Medical Waste used, stored, generated or disposed of by Tenant at the Premises and a description of how Tenant disposes of said Hazardous Materials and/or Medical Waste, a copy of its most current materials list and applicable quantities thereof, applicable material safety data sheets (MSDS) and safety data sheets (SDS) and transportation and removal manifests), (c) a copy of any laws, rules or regulations in Tenant's possession relating to the disposal of the Hazardous Materials and/or Medical Waste generated by Tenant, and (d) copies of any licenses or permits obtained by Tenant in order to use, generate or dispose of Hazardous Materials and/or Medical Waste, including any Massachusetts Water Resources Authority ("MWRA") permits and approvals. Tenant shall also immediately provide to Landlord (without demand by Landlord) a copy of any notice, registration, application, permit, or license given to or received from any governmental authority or private party, or persons entering or occupying the Premises, concerning the presence, release, exposure or disposal of any Hazardous Materials and/or Medical Waste in or about the Premises or the Building.

(j) Tenant hereby covenants and agrees to indemnify, defend and hold Landlord and its employees, partners, agents, contractors, lenders and ground lessors (said persons and entities are hereinafter collectively referred to as the "Indemnified Parties") harmless from any and all liabilities, losses, costs, damages, claims, loss of rents, liens, judgments, penalties, fines, settlement costs, investigation costs, the cost of consultants and experts, attorney's fees, court costs and other legal expenses, the effects of environmental contamination, the cost of environmental testing, the removal, remediation and/or abatement of Hazardous Materials or Medical Waste, insurance policy deductibles and other expenses (collectively "Losses") arising out of or related to an "Indemnified Matter" (as defined below). For purposes of this Section 29.1 l(i), m "Indemnified Matter" shall mean any matter for which one or more of the Indemnified Parties incurs liability or Damages if the liability or Damages arise out of or involve, directly or

indirectly, (i) the presence of any Hazardous Material or Medical Waste on or about the Premises (or the Building), the presence of which is caused or permitted by Tenant or its employees, agents, contractors or invitees (all of said persons or entities are hereinafter collectively referred to as "Tenant Parties"), (ii) the Tenant Parties' use or occupancy of the Premises, the Building or the Land, (iii) Tenant's failure to perform any of its obligations under this Section 29.11 or any other provision relating to Hazardous Materials, (iv) the existence, use or disposal of any Hazardous Substance or Medical Waste brought on to the Building by a Tenant Party, or (v) any other matters for which Tenant has agreed to indemnify Landlord or any Indemnified Party pursuant to any other provision of this Lease relating to Hazardous Materials. Tenant's obligations hereunder shall include, but shall not be limited to compensating the Indemnified Parties for Losses arising out of Indemnified Matters within thirty (30) days after written demand from an Indemnified Party and providing a defense, with counsel reasonably satisfactory to the Indemnified Party, at Tenant's sole expense, within thirty (30) days after written demand from the Indemnified Party, of any claims, action or proceeding arising out of or relating to an Indemnified Matter whether or not litigated or reduced to judgment and whether or not well founded. This indemnification of the Indemnified Parties by Tenant includes, without limitation, reasonable costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal or restoration work required by any federal, state or local governmental agency or political subdivision because of Hazardous Material present in the soil or ground water on or under the Premises based upon the circumstances identified herein. Without limiting the foregoing, if the presence of any Hazardous Material in the Building or otherwise in, on, at or under the Land caused or permitted by Tenant results in any contamination of the Premises, Tenant shall promptly take all actions at its sole expense as are necessary to return the Premises to a condition which complies with all Environmental Laws; provided that Landlord's approval of such actions shall first be obtained, which approval shall not be unreasonably withheld so long as such actions, in Land materially adverse long-term or short-term effect on the Premises, and, in any event, Landlord shall not withhold its approval of any proposed actions which are required by applicable Environmental Laws. If Tenant is obligated to compensate an Indemnified Party for Losses arising out of an Indemnified Matter, Landlord shall have the immediate and unconditional right, but not the obligation, without notice or demand to Tenant, to pay the damages and Tenant shall, upon ten (10) days advance written notice from Landlord, reimburse Landlord for the costs incurred by Landlord. By way of example, and not limitation, Landlord shall have the immediate and unconditional right to cause any damages to the Common Areas, another tenant's premises or to any other part of the Building or Land to be repaired and to compensate other tenants of thereof or other persons or entities for Losses arising out of an Indemnified Matter. The Indemnified Parties need not first pay any Losses to be indemnified hereunder. This indemnity is intended to apply to the fullest extent permitted by applicable law.

(k) The provisions of this Section 29.11 shall survive the expiration or termination of this Lease unless specifically waived in writing by Landlord after said expiration or termination.

29.12 **Patriot Act**.

Tenant represents and warrants to Landlord that:

(A) Tenant is not in violation of any Anti-Terrorism Law

(B) Tenant is not, as of the date hereof:

(i) conducting any business or engaging in any transaction or dealing with any Prohibited Person (as hereinafter defined), including the making or receiving of any contribution of funds, goods or services to or for the benefit of any Prohibited Person;

(ii) dealing in, or otherwise engaging in any transaction relating to, any property or interests in property blocked pursuant to Executive Order No. 13224; or

(iii) engaging in or conspiring to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate any of the prohibitions set forth in, any Anti-Terrorism Law; and

(C) Neither Tenant nor any of its affiliates, officers, directors, shareholders, members or lease guarantor, as applicable, is a Prohibited Person.

If at any time any of these representations becomes false, then it shall be considered a material default under this Lease.

As used herein, "Anti-Terrorism Law" is defined as any law relating to terrorism, anti-terrorism, money-laundering or anti-money laundering activities, including without limitation the United States Bank Secrecy Act, the United States Money Laundering Control Act of 1986, Executive Order No. 13224, and Title 3 of the USA Patriot Act, and any regulations promulgated under any of them. As used herein "Executive Order No. 13224" is defined as Executive Order No. 13224 on Terrorist Financing effective September 24,2001, and relating to "Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism", as may be amended from time to time. "Prohibited Person" is defined as (i) a person or entity that is listed in the Annex to Executive Order No. 13224, or a person or entity owned or controlled by an entity that is listed in the Annex to Executive Order No. 13224; (ii) a person or entity with whom Landlord is prohibited from dealing or otherwise engaging in any transaction by any Anti-Terrorism Law; or (iii) a person or entity that is named as a "specially designated national and blocked person" on the most current list published by the U.S. Treasury Department Office of Foreign Assets Control at its official website, http://www.treas.gov/ofac/t11sdn.pdf or at any replacement website or other official publication of such list. "USA Patriot Act" is defined as the "Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of2001" (Public Law 107-56), as may be amended from time to time.

29.13 **Letter of Credit.**

In order to secure Tenant's obligations to Landlord under this Lease, Tenant shall deliver to Landlord, on the date that Tenant executes and delivers the Lease to Landlord, an Irrevocable Standby Letter of Credit ("Letter of Credit") which shall be (a) in the form attached hereto as Exhibit 8, (b) issued by a bank reasonably acceptable to Landlord, upon which presentment may be made in Boston, Massachusetts, (c) in an amount equal to the Letter of Credit Amount (set forth on Exhibit 1), and (d) for the period specified below, subject to extension in accordance with the terms of the Letter of Credit and as set forth herein. In the event of a change of circumstance relating to the bank issuing the Letter of Credit, or if Landlord otherwise in good faith believes that the financial condition of the issuing bank has been degraded, Landlord reserves the right to require Tenant to replace the Letter of Credit from time to time with a similar letter of credit issued by another bank satisfactory to Landlord. Tenant shall, on or before that date which is thirty (30) days prior to the expiration of the term of such Letter of Credit, deliver to Landlord a new Letter of Credit satisfying the foregoing conditions ("Substitute Letter of Credit") in lieu of the Letter of Credit then being held by Landlord. Such Letter of Credit shall be automatically renewable provided that if the issuer of such Letter of Credit gives notice of its election not to renew such Letter of Credit for any additional period pursuant thereto, Tenant shall be required to deliver a Substitute Letter of Credit satisfying the conditions hereof, on or before the date thirty (30) days prior to the expiration of the term of such Letter of Credit. Tenant agrees that it shall from time to time, as necessary, whether as a result of a draw on the Letter of Credit by Landlord pursuant to the terms hereof or as a result of the expiration of the Letter of Credit then in effect, renew or replace the original and any subsequent Letter of Credit so that a Letter of Credit, in the amount required hereunder, is in effect throughout Term of this Lease, including any extensions thereof, or in the event that Tenant remains in possession of the Premises following the expiration of the Term, or if Tenant has obligations hereunder to Landlord that remain unsatisfied following the expiration of the Term (as may be extended), and for one hundred twenty (120) days after the latest to occur of the foregoing (i.e., the expiration of the Term (as may be extended), the date on which Tenant vacates and yields up the Premises, etc.). If Tenant fails to furnish such renewal or replacement at least thirty (30) days prior to the stated expiration date of the Letter of Credit then held by Landlord, Landlord may draw upon such Letter of Credit and hold the proceeds thereof (and such proceeds need not be segregated) as a security deposit pursuant to the

terms of this Article 29.13.

The Letter of Credit (Substitute Letter of Credit or Additional Letter of Credit, as defined herein, as the case may be) shall be held to ensure the full and timely performance of all of Tenant's obligations under this Lease and may be drawn upon by Landlord and applied from time to time against any outstanding obligations of Tenant hereunder without notice or demand including, but not limited to, (a) any amount necessary to cure any default hereunder after the expiration of any applicable cure period or (b) if such default cannot reasonably be cured by the expenditure of money, to exercise all rights and remedies Landlord may have on account of such default, the amount which, in Landlord's opinion, is necessary to satisfy Tenant's liability on account thereof. In the event of any such draw by the Landlord, Tenant shall, within fifteen (15) business days of written demand therefor, deliver to Landlord an additional Letter of Credit satisfying the foregoing conditions ("Additional Letter of Credit"), except that the amount of such Additional Letter of Credit shall be the amount of such draw. In addition, in the event of a termination based upon the default of Tenant under the Lease, or a rejection of the Lease pursuant to the provisions of the Federal Bankruptcy Code, Landlord shall have the right to draw upon the Letter of Credit (from time to time, if necessary) to cover the full amount of damages and other amounts due from Tenant to Landlord under the Lease. Any amounts so drawn shall, at Landlord's election, be applied first to any unpaid rent and other charges which were due prior to the filing of the petition for protection under the Federal Bankruptcy Code. Tenant hereby covenants and agrees not to oppose, contest or otherwise interfere with any attempt by Landlord to draw down from said Letter of Credit including, without limitation, by commencing an action seeking to enjoin or restrain Landlord from drawing upon said Letter of Credit. Tenant also hereby expressly waives any right or claim it may have to seek such equitable relief. In addition to whatever other rights and remedies it may have against Tenant if Tenant breaches its obligations under this paragraph, Tenant hereby acknowledges that it shall be liable for any and all damages which Landlord may suffer as a result of any such breach.

Upon request of Landlord or any (prospective) purchaser or mortgagee of the Building, Tenant shall, at its expense, cooperate with Landlord in obtaining an amendment to or replacement of any Letter of Credit which Landlord is then holding so that the amended or new Letter of Credit reflects the name of the new owner of the Building or mortgagee, as the case may be.

To the extent that Landlord has not previously drawn upon any Letter of Credit, Substitute Letter of Credit, Additional Letter of Credit or Security Proceeds (collectively "Collateral") held by the Landlord, and to the extent that Tenant is not otherwise in default of its obligations under the Lease as of the termination date of the Lease, Landlord shall return such Collateral to Tenant on the termination of the Term of the Lease.

In no event shall the proceeds of any Letter of Credit be deemed to be a prepayment of rent nor shall it be considered as a measure of liquidated damages. Tenant shall not seek to enjoin, prevent, or otherwise interfere with Landlord's draw under the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit) even if such draw violates this Lease. Tenant acknowledges that the only effect of a wrongful draw would be to substitute a cash Security Deposit for the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit), causing Tenant no legally recognizable damage. In the event of a wrongful draw by Landlord, the parties shall cooperate (at Landlord's expense) to allow Tenant to post a replacement the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit, as the case may be) simultaneously with the return to Tenant of the wrongfully drawn sums, and Landlord shall upon request confirm in writing to the issuer of the Letter of Credit (or any Substitute Letter of Credit or Additional Letter of Credit) that Landlord's draw was erroneous. If Tenant receives a final determination from a court of competent jurisdiction that is not subject to appeal that Landlord has made a "wrongful" draw, (i) Landlord shall pay Tenant interest upon the amount of such wrongful draw at the Reference Rate, and (ii) Tenant shall be entitled to recover its reasonable attorney's fees in connection with such claim. For purposes of the immediately foregoing sentence, the term "wrongful" shall mean that Landlord had no reasonable basis to believe that it had the right to make the draw.

29.14 **Parking**. Commencing as of the Term Commencement Date and continuing thereafter throughout the Term of the Lease, so long as this Lease is in full force and effect, Tenant shall have the right to license up to the number of non-reserved parking spaces set forth in Exhibit 1, above, in the exterior parking facilities serving the Building (as designated by Landlord, from time to time) which parking facility assigned to Tenant is currently the parking lot located across Fargo Street from the Building, on a first come, first served basis,

to which Tenant will have controlled access twenty-four (24) hours per day, seven (7) days per week. The rent for each parking space shall be payable monthly on the first (1st) day of each calendar month during the Term, without any set-off or deduction whatsoever. Parking rental rates shall be at the then current prevailing rate, and shall be subject to changes equal to the prevailing market rate, as established by Landlord from time to time. Tenant shall be required to execute Landlord's standard parking license agreement, as modified from time to time (the current Landlord parking agreement is attached hereto as Exhibit 9), and to comply with rules and regulations relating to the use of the parking spaces and parking facilities as promulgated from time to time. Tenant's rights hereunder are for Tenant and its then-current employees and invitees only and are not provided or to be used for profit or re-letting. Landlord reserves the right, from time to time, to change, alter, replace or relocate the parking areas and facilities, or Tenant's parking spaces therein, serving the Building from time to time, which may include areas and facilities located on or off the Land, or their operation from time to time, and to temporarily close portions thereof for maintenance and repairs as necessary; provided, however, Landlord shall use commercially reasonable efforts to ensure that the number of parking spaces set forth above shall be generally maintained and that there be no unreasonable obstruction thereto. Neither Landlord nor any parking operator of the parking facilities will have any responsibility for loss or damage due to fire or theft or otherwise to any automobile (or to any personal property therein) parked in the parking areas or facilities. In the event that Tenant fails for any reason to timely pay the rent herein provided with respect to any parking space, Landlord shall have the same rights against Tenant as Landlord has with respect to the timely payment of Yearly Rent hereunder and Landlord shall, without limitation of any other rights or remedies of Landlord hereunder or at law, be free to lease such space to any other party, or person whatsoever and thereafter Tenant shall have no further rights hereunder with respect to such parking spaces or any other parking spaces on the property. Tenant may irrevocably surrender its rights to any or all of the parking spaces, upon thirty (30) days written notice to Landlord. Tenant shall have no right to sublet, assign, or otherwise transfer said parking passes except in connection with an assignment of this Lease or sublease of the Premises which is permitted pursuant to the provisions of this Lease. Tenant acknowledges that in the event Tenant's parking spaces are in the future located on land subject to a Supplemental Parking Lease:

(a) Tenant acknowledges that Landlord has or may have a leasehold interest in the parking lot assigned to Tenant.

(b) All parking rights of Tenant in such lot shall be conditioned upon the Supplemental Parking Lease and shall terminate upon the expiration or earlier termination thereof; provided however that Landlord shall use reasonable efforts to provide substitute parking within 60 days of the termination of any Supplemental Parking Lease.

(c) Landlord shall use reasonable efforts to extend or renew the Supplemental Parking Lease or obtain an alternative Supplemental Parking Lease or additional parking lease either adjacent to the Building or within a 0.5 mile radius of the Building on commercially reasonable terms; provided, however. Landlord's failure to extend, renew or obtain an alternative Supplemental Parking hereunder, and if Landlord has complied with the its obligations hereunder, shall not constitute a Landlord default.

(d) In the event that Landlord obtains the right to a parking area or parking facilities Landlord intends to use as a replacement for the lot subject to the terminated Supplemental Parking Lease, Tenant shall have the right, pro rata with other tenants, to rent up to the same number of spaces for which its rights were terminated by reason of the termination of the Supplemental Parking Lease.

The parking spaces may be relocated by Landlord from time to time in Landlord's sole discretion, provided however that such parking spaces shall always be within a 0.5 mile radius of the Building. Landlord shall have no liability to Tenant if such spaces are for any reason at any time temporarily unavailable for Tenant's use, nor shall Landlord have any obligations to enforce parking rules and regulations.

29.15 **Reserved.**

29.16 **Tenant's Option to Extend the Term of the Lease.**

(a) Option. On the conditions, which conditions Landlord may waive, at its election, by written notice to Tenant at any time, that Tenant is not in default of its covenants and obligations under the Lease beyond any applicable cure period, and that the original named Tenant, itself, or a Permitted Transferee, is occupying substantially all of the Premises then demised to Tenant, both as of the time of option exercise and as of the commencement of the hereinafter described additional term, Tenant shall have five (5) year term (the "Option Term"), such Option Term commencing as of the expiration of the then current Term. Tenant may exercise such Option to extend by giving Landlord written notice at least twelve (12) months prior to the expiration of the then current Lease Term. Upon the timely giving of such notice, the Term of this Lease shall be deemed extended upon all of the terms and conditions of this Lease, except that Landlord shall have no obligation to construct or renovate the Premises, or provide any credit or allowance therefor, and that the Yearly Rent during such additional term shall be as hereinafter set forth. If Tenant fails to give timely notice, as aforesaid, Tenant shall have no further right to extend the Term of this Lease, time being of the essence of this Article 29.16. If Tenant fails to timely exercise its rights hereunder, then within seven (7) days of Landlord's request therefor, Tenant shall execute and deliver to Landlord a certification, in recordable form, confirming the Tenant's failure to exercise (or waiver of) such right, and Tenant's failure to so execute and deliver such certification shall (without limiting Landlord's remedies on account thereof) entitle Landlord to execute and deliver to any third party, and record, an affidavit confirming the failure or waiver, which affidavit shall be binding on Tenant and may be conclusively relied on by third parties.

(b) Yearly Rent During Option Term. The Yearly Rent during the Option Term shall be based upon the F air Market Rental Value, as defined in Article 29.17, as of the commencement of the Option Term, of the Premises then demised to Tenant.

(c) Tenant shall have no further option to extend the Term of the Lease other than the Option Term herein provided.

(d) Notwithstanding the fact that, upon Tenant's exercise of the herein option to extend the Term of the Lease, such extension shall be self-executing, as aforesaid, the parties shall promptly execute a lease amendment reflecting such additional term after Tenant exercises the herein option, except that the Yearly Rent payable in respect of such additional term may not be set forth in said amendment. Subsequently, after such Yearly Rent is determined, the parties shall execute a written agreement confirming the same. The execution of such lease amendment shall not be deemed to waive any of the conditions to Tenant's exercise of its rights under this Article 29.16, unless otherwise specifically provided in such lease amendment.

29.17 **Definition of F air Market Rental Value.**

(a) "Fair Market Rental Value" shall be computed as of the date in question at the then current Yearly Rent, including provisions for subsequent increases and other adjustments for leases or agreements to lease then currently being negotiated, or executed in comparable space located in the Building, or if no such leases or agreements to lease are then currently being negotiated or executed in the Building, the Fair Market Rental Value shall be determined by reference to leases or agreements to lease then currently being negotiated or executed for comparable space located elsewhere in first-class life- science buildings located in the Seaport District of Boston, Massachusetts. In determining Fair Market Rental Value, all relevant factors shall be taken into account and given effect, including, without limitation: size, location and condition of Premises, lease term, including renewal options, tenant's obligations with respect to operating expenses and taxes, tenant improvement allowances, condition of building, and services and amenities provided by the Landlord.

(b) Dispute as to Fair Market Rental Value:

Landlord shall initially designate Fair Market Rental Value and Landlord shall furnish data in support of such designation. If Tenant disagrees with Landlord's designation of a Fair Market Rental Value, Tenant shall notify Landlord, by written notice given within thirty (30) days after Tenant has been notified of Landlord's designation, of its disagreement whereupon the parties shall negotiate in good faith to arrive at a mutually agreeable Fair Market Rental Value. If the parties are unable to agree within thirty (30) days after Tenant's notice to Landlord, the parties shall submit such Fair Market Rental Value to arbitration. Fair Market Rental Value shall be submitted to arbitration as follows: Fair Market Rental Value shall be determined by impartial arbitrators, one to be chosen by the Landlord,

one to be chosen by Tenant, and a third to be selected, if necessary, as below provided. The unanimous written decision of the two first chosen, without selection and participation of a third arbitrator, or otherwise, the written decision of a majority of three (3) arbitrators chosen and selected as aforesaid, shall be conclusive and binding upon Landlord and Tenant. Landlord and Tenant shall each notify the other of its chosen arbitrator within ten (10) days following the call for arbitration and, unless such two arbitrators shall have reached a unanimous decision within thirty (30) days after their designation, they shall so notify the President of the Boston Bar Association (or such organization as may succeed to said Boston Bar Association) and request him or her to select an impartial third arbitrator. All arbitrators shall be unrelated third parties and shall have at least ten (10) years of professional experience as a real estate broker or appraiser dealing with like types of properties, to determine Fair Market Rental Value as herein defined. Such third arbitrator and the first two chosen shall, subject to commercial arbitration rules of the American Arbitration Association, hear the parties and their evidence and render their decision within thirty (30) days following the conclusion of such hearing and notify Landlord and Tenant thereof. Landlord and Tenant shall bear the expense of the third arbitrator (if any) equally. The decision of the arbitrators shall be binding and conclusive, and judgment upon the award or decision of the arbitrators may be entered in the appropriate court of law (as identified on Exhibit 1); and the parties consent to the jurisdiction of such court and further agree that any process or notice of motion or other application to the Court or a Judge thereof may be served outside the Commonwealth of Massachusetts by registered mail or by personal service, provided a reasonable time for appearance is allowed. If the dispute between the parties as to a Fair Market Rental Value has not been resolved before the commencement of Tenant's obligation to pay rent based upon such Fair Market Rental Value, then Tenant shall pay Yearly Rent and other charges under the Lease in respect of the Premises in question based upon the Fair Market Rental Value designated by Landlord until either the agreement of the parties as to the Fair Market Rental Value, or the decision of the arbitrators, as the case may be, at which time Tenant shall pay any underpayment of rent and other charges to Landlord, or Landlord shall refund any overpayment of rent and other charges to Tenant.

29. 18 **Right of First Offer.**

(a) Tenant shall have the one-time right of first offer to lease any additional space on the seventh (7th) floor of the Building that becomes available for occupancy (the "Available Space") during the Term, subject to and in accordance with the terms and conditions set forth in this Section 29.18. If at any time from and after the Term Commencement Date and prior to the expiration of the Term any Available Space shall become available, Landlord shall notify Tenant thereof in writing ("Landlord's Available Space Notice"), which notice shall include the anticipated estimated date upon which such Available Space shall become available for occupancy by Tenant along with a floor plan showing the approximate rentable square footage thereof. Tenant shall have the right to lease all such Available Space described in Landlord's Available Space Notice only by giving written notice to Landlord within fourteen (14) days after Tenant receives Landlord's Available Space Notice, time being of the essence, and Tenant may only exercise such right if there are at least five (5) full Lease Years remaining on the Term from and after the anticipated delivery date of the Available Space (provided that if there are less than five (5) full Lease Years remaining, Tenant may satisfy this requirement by simultaneously exercising any right which Tenant may then have to extend the Term so that there are at least five (5) full Lease Years remaining). If Tenant so elects to lease the applicable Available Space, such Available Space shall be and become part of the Premises hereunder upon the delivery of such Available Space to Tenant and shall be leased upon the same terms and conditions contained in this Lease, except that: (x) the Yearly Rent for such space shall be equal to the F air Market Rental Value therefor determined in accordance with Section 29.17, above (made applicable hereto by such changes and modifications as are required given the application hereof, *mutatis mutandis),* and (y) it is understood and agreed that the applicable Available Space shall be leased by Tenant in its then "as-is", "where-is" condition, without warranty or representation by Landlord and Landlord shall have no obligation to complete any work to prepare the applicable Available Space for Tenant's use and occupancy or provide any allowance or contribution therefor. Following such election by Tenant, and effective as of the delivery of the applicable Available Space and for the balance of the Term and any extension thereof: (i) the "Premises", as used in this Lease, shall include the applicable Available Space; (ii) the rentable square footage of the Premises shall be increased to include the rentable square footage of the applicable Available Space (and any Additional Rent, charges and expenses due under this Lease shall be re-calculated to reflect the inclusion of the Available Space); and (iii) the Yearly Rent shall equal the sum of the then current Yearly Rent provided for in this Lease plus the Yearly Rent for the applicable Available Space as determined above. To confirm the inclusion of the applicable Available Space as set forth above, Landlord shall prepare, and Tenant and Landlord shall promptly execute and deliver, an amendment to this Lease reflecting the

foregoing terms and incorporation of the applicable Available Space. For the purposes hereof, space shall be deemed "available for occupancy" only when and after the existing lease thereon (including any extension periods) has expired or is due to expire within six (6) months, and Landlord has elected not to renew the lease of the present tenant (including at Landlord's discretion beyond the existing terms and conditions of such lease), and any prior options, rights or rights to lease with respect to such Available Space have expired or been waived, or Landlord anticipates entering into a surrender agreement with the present tenant, and Landlord is free to lease such space to third parties without restriction. For clarity, Tenant understands that all vacant space in the Building as of the date hereof is not "available for occupancy" and will only become "available for occupancy" from and after the time such space has first been leased and then meets the definition for "available for occupancy" hereunder. Tenant acknowledges and agrees that its rights hereunder are and shall be subject and subordinate to any extension rights, expansion rights, options to lease or any rights of first negotiation, first offer or first refusal to lease granted to other tenants or occupants of the Building prior to the date of execution and delivery of this Lease, or to the terms of any leases, including extension and expansion rights, existing prior to the execution and delivery of this Lease. TENANT SPECIFICALLY ACKNOWLEDGES AND AGREES THAT THE RIGHT OF FIRST OFFER PROVIDED HEREIN IS NOT INTENDED AS, NOR SHALL THE SAME BE INTERPRETED OR CONSTRUED TO BE, A RIGHT OF FIRST REFUSAL.

(b) Unless Landlord otherwise agrees in writing, Tenant may not exercise the right of first offer hereunder, and, at Landlord's option, no exercise thereof shall be effective, if a default by Tenant shall exist under this Lease (beyond any applicable cure period) on the date on which Tenant provides Landlord with notice exercising its right or as of the date that Landlord would have otherwise delivered the Available Space to Tenant.

(c) If Tenant fails to timely exercise, or waives, any of its rights hereunder, the right(s) granted hereunder as to any applicable Available Space shall be deemed waived for all purposes as to such Available Space, and Landlord may lease the applicable Available Space to any party and upon any terms free of any rights of Tenant. Tenant, following such waiver and within seven (7) business days of Landlord's request therefor, shall execute and deliver to Landlord a certification, in recordable form, confirming the waiver of such right, and Tenant's failure to so execute and deliver such certification shall (without limiting Landlord's remedies on account thereof) entitle Landlord to execute and deliver to any third party, and record, an affidavit confirming the waiver, which affidavit shall be binding on Tenant and may be conclusively relied on by third parties.

29.19 **Substitution of Other Premises**

Landlord shall have the right, but no more than one (1) time, prior to the end of the original Term (i.e. prior to any extension thereof), to relocate Tenant to any other leasable space in the Building provided that said space shall be approximately the same size as the Premises and that Landlord shall pay the cost of moving Tenant's furniture, trade fixtures and equipment to the new space. The new space shall include tenant improvements that are substantially equivalent to the tenant improvements contained in the Premises, and the cost of any required tenant improvements shall be paid by Landlord. Landlord shall deliver substitute space to Tenant not more than one hundred eighty (180) days after Tenant approves plans for the construction of required tenant improvements at the new space, if any. Tenant shall not unreasonably withhold or delay its approval of any plans for the construction of tenant improvements. Landlord shall give Tenant not less than sixty (60) days advance notice of the estimated move in date. Prior to the date that Tenant is moved to the new space, Tenant shall remain in the Premises and shall continue to perform all of its obligations under this Lease. After Tenant moves into the new space, this Lease shall remain in full force and effect and be deemed applicable to such new space, except as to Yearly Rent, Tenant's Tax Share and/or Tenant's Operating Expense Share, all of which shall be adjusted based on the relationship between the Rentable Area in the original Premises and the Rentable Area in the new space; provided however that in no event shall the Yearly Rent increase due to the new space containing more rentable square feet than the original Premises (except in the event that Landlord offers Tenant the choice between a space which meets the requirements of a new space under this Section 29.19 and a space that is larger than the original Premises, and Tenant elects to relocate to the larger space). In no event shall such a relocation result in a reduction of the size and/or amount of the Common Laboratory Facilities available to Tenant. Following such relocation, Landlord and Tenant shall amend this Lease to provide for the relocation of the Premises.

29,20 **Swing Premises.**

Prior to the Substantial Completion Date of Landlord's Work, the Premises shall be deemed to be the approximately 6,557 rentable square feet on the ninth (9th) floor of the Building, substantially as shown on Exhibit 2-B (foe "Swing Premises"), except where the context requires otherwise (e.g. provisions relating to Landlord's Work as it relates to the Premises) and as otherwise expressly set forth in this Section 29.20, but including, without limitation, the provisions of this Lease relating to Tenant's insurance and indemnity obligations.

(a) Swing Premises Adjustments. Prior to the Substantial Completion Date of Landlord's Work:

(i) Tenant's Proportionate Share shall be One and 50/100 percent (1.50%);

(ii) the Common Laboratory Facilities available to Tenant pursuant to Section 2.2(b), above, shall be based on the rentable square footage of that portion of the Swing Premises dedicated to actual laboratory use (which, for the sole purpose of this subsection, shall be deemed not to exceed 50% of the rentable area of the Swing Premises)and may be located in a different area than (but on the same floor as) the Common Laboratory Facilities available to Tenant from and after said Substantial Complexation Date; and

(iii) the allowable quantities of Hazardous Materials pursuant to Section 29.11 (a), above, shall be based on Exhibits 10-C and 10-D (in lieu of Exhibits 10-A and 10-B, respectively).

(b) Condition of the Swing Premises. Subject to Landlord's obligation to complete Landlord's Swing Premises Work (as defined below) and Landlord's maintenance and repair obligations hereunder, Tenant accepts the Swing premises in its present "as is" condition, without representation or warranty, express or implied, in fact or in law, by Landlord and without recourseto Landlord as to the nature, condition or usability thereof; and Tenant agrees that, except for Landlord's Swing Premises Work, Landlord has no work to perform in or on the Swing Premises to prepare the Swing Premises for Tenant's use and occupancy, and that any and all work to be done in or on the Swing Premises will be performed by Tenant at Tenant's sole cost and expense in accordance with the terms of this Lease.

(c) Landlord's Swing Premises Work.

i. Landlord shall deliver the Swing Premises to Tenant with the work shown on the construction drawings and plans referenced on Exhibit 7-B attached hereto (the "Swing Premises Plans") Substantially Complete (as defined below), the perimeter access system installed, and with all Building systems serving the Swing Premises, including electrical, life safety, heating/cooling, and plumbing systems serving the Swing Premises in good working condition, order and repair (collectively, "Landlord's Swing Premises Work"), at Landlord's sole cost and expense. Tenant acknowledges and agrees that it has reviewed and has accepted the Swing Premises Plans. Landlord reserves the right to make changes and substitutions to the Swing Premises Plans in connection with the construction of Landlord's Swing Premises Work, provided the same do not materially adversely modify the Swing Premises Plans (e.g., like kind substitutions, etc.). Tenant agrees to not unreasonably withhold or delay its consent to any changes to the Swing Premises Plans to the extent required to (i) comply with applicable Legal Requirements, (ii) to obtain or to comply with any required permit for Landlord's Swing Premises Work, (iii) to make reasonable adjustments for field deviations or conditions encountered during the construction of Landlord's Swing Premises Work, or (iv) to account for long-lead time items, availability, shortages, labor issues, and the like. Landlord's Swing Premises Work shall not include, without limitation, Tenant's furniture, trade fixtures, equipment (excluding that equipment expressly and specifically included in Landlord's Work), personal property, data and communications equipment and cabling and/or any other Tenant's Swing Premises Work (as defined below), and shall be limited to construction as generally laid out and specified on the Swing Premises Plans.

ii. Landlord agrees to use reasonable efforts and diligence to Substantially Complete Landlord's Swing Premises Work by the Anticipated Commencement Date, subject to delays caused by event(s) of Force Majeure, but in no event shall Landlord be liable to Tenant for any failure to deliver the Swing Premises on any specified date, nor shall such failure give rise to any default or other remedies under this Lease or at law or equity, or otherwise affect the validity of this Lease or the obligations of Tenant hereunder.

iii. Landlord's Swing Premises Work shall be deemed "Substantially Complete" on the date (the "Swing Premises Substantial Completion Date") as of which a completed or "signed- off' building permit or a certificate of occupancy (temporary or permanent) permitting the use of the Swing Premises is available from the City of Boston Inspectional Services Department (the "Swing Premises Certificate of Occupancy"), subject only to the completion of the Swing Premises Punchlist Work (defined below), except to the extent that Landlord's compliance with any conditions precedent are delayed by the acts or omissions of Tenant or its employees, agents or contractors (e.g., the installation of Tenant's furniture) including any Tenant's Swing Premises Work that must be completed to obtain same. Landlord shall deliver a permanent Swing Premises Certificate of Occupancy to Tenant prior to the expiration of the temporary Swing Premises Certificate of Occupancy (or "signed-off' building permit), except to the extent that Landlord's compliance with any conditions precedent are delayed by the acts or omissions of Tenant or its employees, agents or contractors, including Tenant's Swing Premises Work, and provided, that if any conditions precedent thereto are in Tenant's control, Landlord shall have no obligation to comply with said conditions. Notwithstanding the foregoing, if any delay in the Swing Premises Substantial Completion of the Landlord's Work by Landlord is due to Tenant Swing Premises Delays, then the Swing Premises Substantial Completion Date shall be deemed to be the date Landlord's Swing Premises Work (or applicable portion thereof) would have been Substantially Complete, if not for such Tenant Swing Premises Delays, as reasonably determined by Landlord

(provided, however, Tenant shall not be entitled to take possession of the Swing Premises until the Swing Premises are in fact Substantially Complete). "Tenant Delays" shall mean delays caused by any act or omission of Tenant or its employees, agents or contractors which actually delays Landlord from timely completing the Landlord's Swing Premises Work. Landlord shall provide Tenant with written notice of any such Tenant Swing Premises Delay within a commercially reasonable period of time following Landlord's determination of the same.

iv. Within the period of time commencing five (5) business days prior to and expiring fourteen (14) business days after the Swing Premises Substantial Completion Date, Landlord and Tenant shall confer and create a specific list of any remaining Punchlist Work (defined below) with respect to Landlord's Work (a "Swing Premises Punchlist"), which work shall be completed as set forth above. Landlord shall use commercially reasonable efforts to complete any Swing Premises Punchlist Work not fully completed (of which Tenant shall give Landlord notice as provided below) on the Term Commencement Date within thirty (30) days of the later of (1) the Swing Premises Substantial Completion Date or (2) completion of the Swing Premises Punchlist (subject to Force Majeure and Tenant Delays) and Landlord shall have access to the Swing Premises in accordance with the provisions of this Lease to complete the Swing Premises Punchlist Work. For purposes hereof, "Swing Premises Punchlist Work" is defined as minor or insubstantial incomplete work or details or defects of construction, decoration or mechanical adjustments that do not significantly affect Tenant's use of the Swing Premises for the Permitted Use (without taking into effect Tenant's specific manner of use). Except with respect to the items contained in the Swing Premises Punchlist, as of the Swing Premises Substantial Completion Date, Tenant shall be conclusively deemed to have agreed that Landlord has performed all of its obligations under this Section 29.20.

v. All components of Landlord's Swing Premises Work shall be part of the Building. Notwithstanding the forgoing, (i) Tenant shall obtain insurance covering Landlord's Swing Premises Work, as set forth in Section 15.1 and (ii) articles of personal property, including but not limited to copiers and computers; unattached laboratory and specialty equipment; unattached casework; bottle washers; telecommunication equipment; cabling; and any equipment or utility connections necessary for the function of the foregoing, owned or installed by Tenant solely at its expense in the Swing Premises shall remain the property of Tenant and may be removed by Tenant at any time prior to the Yearly Rent Commencement Date, subject to Tenant's repair and restoration obligations in this Lease.

(d) Tenant's Swing Premises Work: Alterations. Tenant shall perform, at its expense, and subject to the terms and conditions of this Lease, the work and installations (other than Landlord's Swing Premises Work) necessary or desirable for Tenant to operate at the Swing Premises ("Tenant's Work"), including, without limitation, Tenant's furniture, trade fixtures, equipment (excluding that equipment expressly and specifically included in Landlord's Swing Premises Work), personal property, data and communications equipment and cabling. Notwithstanding the foregoing or any provision to the contrary in this Lease, Tenant shall not make any Alterations to the Swing Premises without Landlord's prior written consent, which may be granted or withheld at Landlord's sole discretion.

(e) Tenant's Early Entry. Provided that Tenant does not interfere with or delay the completion by Landlord or its agents or contractors of Landlord's Swing Premises Work, Tenant shall have the right to enter the Swing Premises for the purpose of installing trade fixtures, equipment, tel/data, and similar items, and all such entry shall be made in compliance with all terms and conditions of this Lease (except as set forth herein) and the Rules and Regulations then in effect for the Building and shall be coordinated with Landlord's building manager. Tenant shall be liable for any damages or delays caused by Tenant's activities at the Swing Premises. Provided that Tenant has not begun operating its business from the Swing Premises, and subject to all of the terms and conditions of the Lease, the foregoing activity shall not constitute the delivery of possession of the Swing Premises to Tenant and the Lease Term shall not commence as a result of said activities. Prior to entering the Swing Premises, Tenant shall obtain all insurance it is required to obtain by the Lease and shall provide certificates of said insurance to Landlord and

shall have provided the Letter of Credit to Landlord. Notwithstanding the foregoing, Landlord may deny Tenant's request for early entry under this Section 29.20(e) if, in Landlord's good faith belief, such early entry will impede, delay or adversely impact the cost, timing, scheduling or delivery of Landlord's Swing Premises Work (including, without limitation, delays resulting in the need for restaging, remobilization or the addition of additional contract costs).

Surrender of the Swing Premises. On or before the Yearly Rent Commencement Date, Tenant shall vacate, quit, yield-up, and surrender the Swing Premises in accordance with this Lease, including without limitation Sections 11, 22, and 29.11 hereof *(mutatis mutandis)*, as if the Term of this Lease expired with respect thereto, provided however that in no event shall Tenant be obligated to remove any component of Landlord's Swing Premises Work (except to the extent Tenant requested a change to Landlord's Swing Premises Work and Landlord conditioned approval (which approval or disapproval shall be at Landlord's sole discretion) of such change on Tenant removing a component thereof upon surrender). As of the Yearly Rent Commencement Date, Tenant shall have no further leasehold or other right, title or interest in or to the Swing Premises, pursuant to the Lease or otherwise. Tenant shall remain liable to Landlord pursuant to the Lease for any and all amounts due and payable or accrued, or obligations to be performed, as of the Yearly Rent Commencement Date with respect to the Swing Premises, including, without limitation, Tenant's Proportionate Share of Operating Costs and Taxes, and other charges due under this Lease. Tenant hereby acknowledges that Landlord intends to perform work in, market and/or let all or portions of the Swing Premises and that Tenant's failure to timely quit the Swing Premises (or any portion thereof) may result in damages to Landlord. In the event Tenant fails to quit and yield-up the Swing Premises (or any portion thereof) as set forth herein, Tenant shall be considered holding over and Landlord shall be entitled to all remedies available under this Lease, including without limitation Section 22 hereof, and all other rights and remedies available at law.

29.21 **Waiver of Jury Trial. LANDLORD AND TENANT HEREBY WAIVE THEIR RESPECTIVE RIGHT TO TRIAL BY JURY OF ANY CAUSE OF ACTION, CLAIM, COUNTERCLAIM OR CROSS-COMPLAINT IN ANY ACTION, PROCEEDING AND/OR HEARING BROUGHT BY EITHER LANDLORD AGAINST TENANT OR TENANT AGAINST LANDLORD ON ANY MATTER WHATSOEVER ARISING OUT OF, OR IN ANY WAY CONNECTED WITH, THIS LEASE, THE RELATIONSHIP OF LANDLORD AND TENANT, TENANT'S USE OR OCCUPANCY OF THE PREMISES, OR ANY CLAIM OF INJURY OR DAMAGE, OR THE ENFORCEMENT OF ANY REMEDY UNDER ANY LAW, STATUTE, OR REGULATION, EMERGENCY OR OTHERWISE, NOW OR HEREAFTER IN EFFECT.**

29.22 **Electronic Signatures.**

This Lease may be executed in counterparts and shall constitute an agreement binding on all parties notwithstanding that all parties are not signatories to the original or the same counterpart provided that all parties are furnished a copy or copies thereof reflecting the signature of all parties. Transmission of a facsimile or by email of a Portable Document Format (PDF) (or similar electronic counterpart including DocuSign) copy of the signed counterpart of this Lease shall be deemed the equivalent of the delivery of the original, and any party so delivering a facsimile or PDF (or similar electronic counterpart) copy of the signed counterpart of this Lease by email transmission shall in all events deliver to the other party an original signature promptly upon request. In addition, this Lease, any other document necessary for the consummation of the transaction contemplated by this Lease may be accepted, executed or agreed to through the use of DocuSign or other means of electronic signature acceptable to Landlord and in accordance with the Electronic Signatures in Global and National Commerce Act (E-Sign Act"), Title 15, United States Code, Sections 7001 et seq., the Uniform Electronic Transaction Act ("UETA") and any applicable state law. Any document accepted, executed or agreed to in conformity with such laws will be binding on each party as if it were physically executed. The exchange of executed copies of this Lease or any subsequent amendment or modification hereof by facsimile, DocuSign or PDF (or other electronic means) transmission shall constitute effective execution and delivery of this Lease or such amendment or modification, as applicable, as to the parties for all purposes.

[Signature Page to Follow]

IN WITNESS WHEREOF the parties hereto have executed this Indenture of Lease in multiple copies, each to be considered an original hereof, as a sealed instrument on the day and year noted in Exhibit 1 as the Execution Date.

LANDLORD:

RREF II 451D, LLC, a
Delaware liability company

DocuSigned by:
By: patrick sweeney
DE881501885A409...
Name: Patrick Sweeney
Title: Its Authorized Signatory

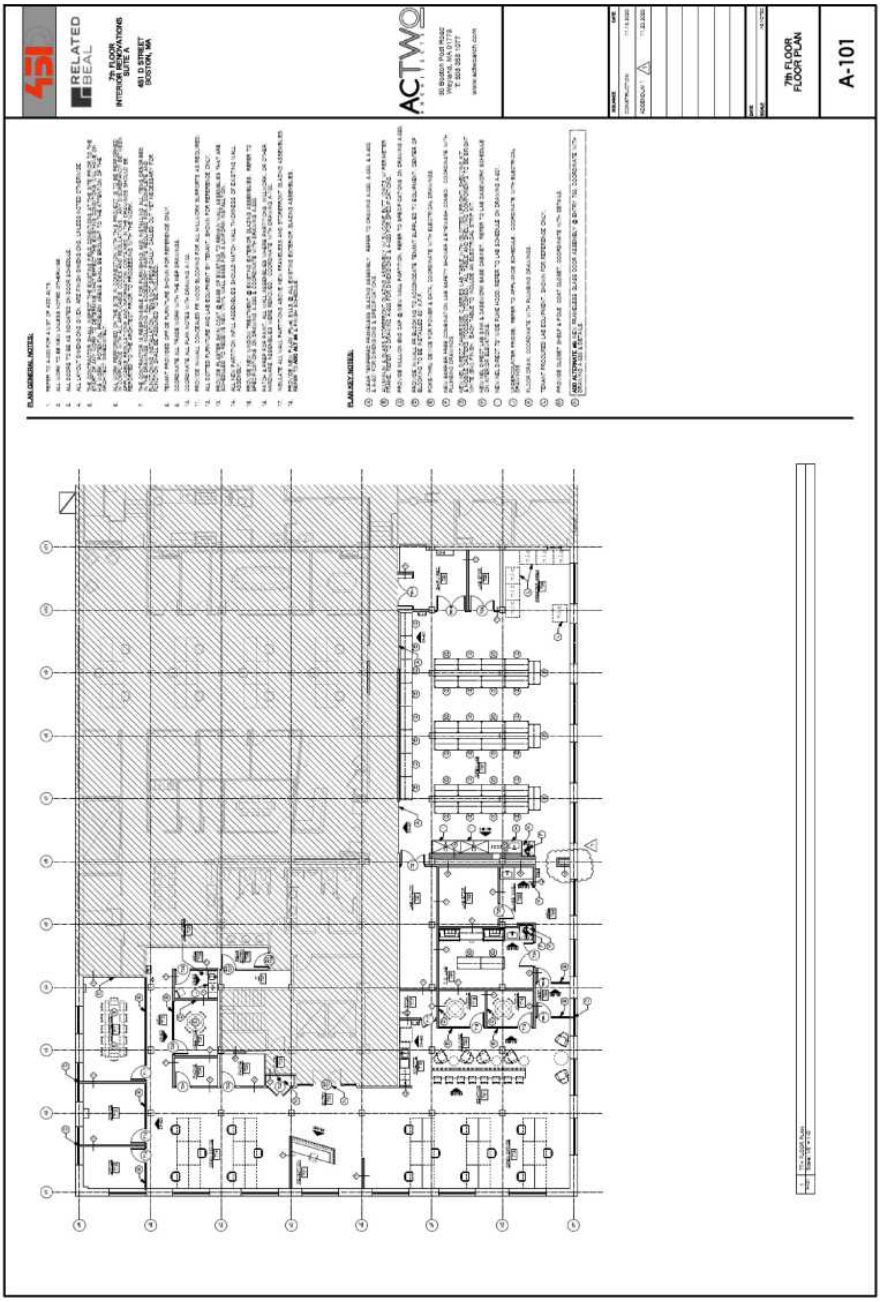
TENANT:

SENSEI BIOTHERAPEUTICS, INC.,
a Delaware corporation

DocuSigned by:
By: John Celebi
5C9A54A1D927455...
Name: John Celebi
Title: CEO
Hereunto Duly Authorized

EXHIBIT 2-A

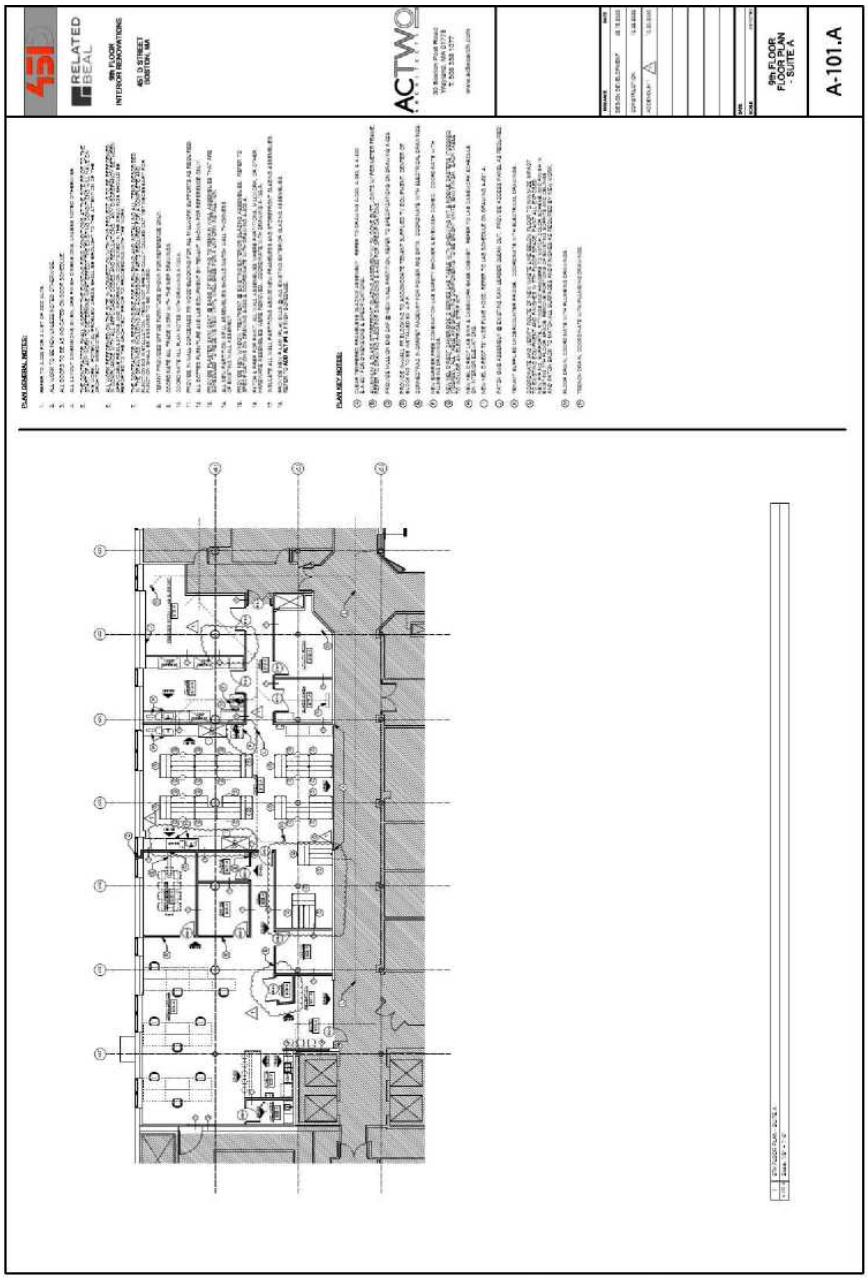
LEASE PLAN



Note: The above plans are included for the sole purpose of identifying the location of the Premises and may not depict the current or delivery condition of the Premises. All furniture and equipment shown thereon is for illustrative purposes only and (unless so identified in Exhibit 7-A) is not part of Landlord's Work or the delivery of the Premises unless expressly provided in this Lease.

EXHIBIT 2-B

SWING PREMISES PLAN



Note: The above plans are included for the sole purpose of identifying the location of the Swing Premises and may not depict the current or delivery condition of the Swing Premises. All furniture and equipment shown thereon is for illustrative purposes only and (unless so identified in Exhibit 7 -B) is not part of Landlord's Swing Premises Work or the delivery of the Swing Premises unless expressly provided in this

Lease.

EXHIBIT 3

PLAN OF BUILDING AND LAND

EXHIBIT 4

TERM COMMENCEMENT DATE AGREEMENT

("Tenant") hereby certifies that it has entered into a lease with RREF II 451D, LLC ("Landlord") dated (the "Lease") and verifies the following information as of the day of , . Capitalized terms used, but not herein defined, shall have the meaning ascribed in the Lease:

Address of Building:

Number of Rentable Square Feet: r.s.f.

Term Commencement Date:

Yearly Rent Commencement Date:

Lease Termination Date:

Tenant's Proportionate Share: %

Initial Annual Rent: $

Option to Extend:

Initial Security Deposit: $

Tenant acknowledges and agrees that all improvements Landlord is obligated to make to the **Premises, if any, have been completed to Tenant's satisfaction, that Tenant has accepted possession of** the Premises, and that as of the date hereof, there exist no offsets or defenses to the obligations of Tenant under the Lease.

TENANT: **LANDLORD:**

RREF II 451D, LLC, a Delaware limited

By:
Name:
Title:

Hereunto duly authorized

By:
Name:
Title: It's Authorized Signatoryliability company

EXHIBIT 5

CURRENT RULES AND REGULATIONS

For Tenants:

Tenant agrees to observe the rights reserved to Landlord in the Lease and agrees, for itself, its employees, agents, clients, customers, invitees and guests, to comply with the following rules and regulations and with such reasonable modifications thereof and additions thereto as Landlord may make, from time to time, for the Building.

1. Any sign, lettering, curtain, picture, notice, or advertisement within the Premises (including, but not limited to Tenant identification signs on doors to the Premises) which is visible outside of the Premises shall be installed at Tenant's cost and in such manner, character and style as Landlord may approve in writing. No sign, lettering, picture, notice or advertisement shall be placed on any outside window or in any position so as to be visible from outside the Building or from any atrium or lobbies of the Building.

2. Tenant shall not use the name of the Building or use pictures or illustrations of the Building in advertising or other publicity, without prior written consent of Landlord.

3. Tenant, its customers, invitees, licensees, and guests shall not obstruct sidewalks, entrances, passages, courts, corridors, vestibules, halls, elevators and stairways in and about the Building. Tenant shall not place objects against glass partition or doors or windows or adjacent to any open common space which would be unsightly from the Building corridors or from the exterior of the Building, and will promptly remove the same upon notice from Landlord.

4. Tenant shall not make noises, cause disturbances, create vibrations, odors or noxious fumes or use or operate any electrical or electronic devices or other devices that emit sound waves or are dangerous to other tenants and occupants of the Building or that would interfere with the operation of any device or equipment or radio or television broadcasting or reception from or within the Building or elsewhere, or with the operation of roads or highways in the vicinity of the Building and shall not place or install any projections, antennae, aerials or similar devices inside or outside of the Premises.

5. Tenant shall not make any room-to-room canvass to solicit business from other tenants in the Building and shall not exhibit, sell or offer to sell, use, rent or exchange any item or services in or from the Premises unless ordinarily embraced within Tenant's use of the Premises as specified in its lease.

6. Tenant shall not waste electricity or water and agrees to cooperate fully with Landlord to assure the most effective operation of the Building's heating and air conditioning and shall refrain from attempting to adjust any controls. Tenant shall keep public corridor doors closed.

7. Door keys for doors in the Premises will be furnished at the commencement of the Lease by Landlord. Tenant shall not affix additional locks on doors and shall purchase duplicate keys only from Landlord. When the Lease is terminated, Tenant shall return all keys to Landlord and will provide to Landlord the means of opening any safes, cabinets or vaults left in the Premises.

8. Tenant assumes full responsibility for protecting its space from theft, robbery and pilferage, which includes keeping doors locked and other means of entry to the Premises closed and secured.

9. Peddlers, solicitors and beggars shall be reported to the office of the Building or as Landlord otherwise requests.

10. Tenant shall not install nor operate machinery or any mechanical devises of a nature not directly related to Tenant's ordinary use of the Premises without the written permission of Landlord.

11. No person or contractor not employed or approved by Landlord shall be used to perform window washing cleaning, decorating, repair or other work in the Premises.

12. Tenant may not and Tenant shall not permit or suffer anyone to:

a) Cook in the Premises (other than microwave cooking for employees only);
b) Place vending or dispensing machines of any kind in or about the Premises, other than for the exclusive use of Tenant's employees, subject to applicable fire and other codes; or
c) At any time sell, purchase, or give away, or permit the sale, purchase or gift of, food in any form (except for the reasonable and customary giving away of food at holiday parties, birthday celebrations, or the like).

13. Tenant shall not:

a) Use the Premises for lodging, manufacturing or for any immoral or illegal purposes;
b) Use the Premises to engage in the manufacture or sale of, or permit the use of any spirituous, fermented, intoxicating or alcoholic beverages on the Premises; or
c) Use the Premises to engage in the manufacture or sale of, or permit the use of any illegal drugs on the Premises.

14. In no event shall any person bring into the Building inflammables such as gasoline, kerosene, naphtha and benzene or explosives or firearms or any other article of intrinsically dangerous nature, except for Hazardous Materials as disclosed on Exhibit 11 and stored and used in connection with the terms of the Lease, including, without limitation, Section 29.11. If by reason of the failure of Tenant to comply with the provisions of this paragraph any insurance premium payable by Landlord for all or any part of the Building shall at any time be increased above normal insurance premiums for insurance not covering the items aforesaid. Landlord require Tenant to make immediate payment for the whole of the increased insurance premium.

15. Tenant shall comply with all applicable federal, state and municipal laws, ordinances and regulations and building rules, and shall not directly or indirectly make any use of the Premises which may be prohibited thereby or which shall be dangerous to person or property or shall increase the cost of insurance or require additional insurance coverage.

16. If Tenant desires signal, communication, alarm or other utility or service connection installed or changed, the same shall be made at the expense of Tenant, with approval and under direction or Landlord.

17. Bicycles shall not be permitted in the Building in other than Landlord-designated locations. There are bicycle racks located in the lower level of the Building and the exterior of the Building for use by tenants of the Building on a first come, first served, basis.

18. Tenant shall cooperate and participate in all security programs affecting the Building.

19. In the event Landlord allows one or more tenants in the Building to do any act prohibited herein, Landlord shall not be precluded from denying any other tenant the right to do any such act (provided that Landlord is acting in a non-discriminatory fashion).

20. Tenant, or the employees, agents, servants, visitors or licensees of Tenant shall not at any time place, leave or discard any rubbish, paper, articles, or objects of any kind whatsoever outside the doors of the Premises or in the corridors or passageways of the Building. No animals or birds shall be brought or kept in or about the Building (other than for the assistance of special needs individuals).

21. Landlord shall have the right to prohibit any advertising by Tenant which in Landlord's reasonable opinion, tends to impair the reputation of the Building or its desirability for offices, and, upon written notice from Landlord, Tenant will refrain from or discontinue such advertising.

22. Tenant shall not mark, paint or drill into, or in any way deface any part of the Building or the Premises. No boring, driving of nails or screws, cutting or stringing wires shall be permitted, except with the prior written consent of Landlord and as Landlord may direct. Subject to the above, Tenant shall be permitted to hang pictures, diplomas, and similar items from the interior walls of the Premises. Tenant shall not install any resilient tile or similar floor covering in the Premises except with the prior approval of Landlord. The use of cement or other similar adhesive material is expressly prohibited.

23. Landlord shall have the right to limit or control the number and format of listings on the main Building directory (provided that Tenant shall be entitled to a minimum of one (1)).

24. Tenant's use of delivery areas, loading areas and freight elevators shall be scheduled in advance with Landlord and shall be subject to the approval of Landlord.

25. Entry and exiting to and from the Building and use of all roads, driveways and walkways to the Building shall be subject to such traffic and use rules and regulations as Landlord may promulgate and provide to Tenant from time to time.

26. Tenant shall not place a load upon any floor of the Building exceeding the lesser of the floor load which such floor was designed to carry or that allowed by law

27. Normal Business Operating Hours (also referred to as Standard Building Hours in Section 20.1(b) of the Lease) are 8:00 AM to 6:00 PM Monday through Friday, and 8:00 a.m. to 1:00 p.m. Saturdays, excluding New Year's Day, Martin Luther King's Birthday, Washington's Birthday, Patriots' Day, Memorial Day, Bunker Hill Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, the day after Thanksgiving Day, Christmas Day (and the applicable weekday when any such day occurs on a weekend day) and all other federal, state, city or county holidays.

28. Tenant may request heating and/or air conditioning outside of Normal Building Operating Hours by submitting a request in writing to the Building Manager's office by noon of the preceding workday. Landlord shall charge Tenant a fee therefor which may be in excess of the actual cost to Landlord.

29. Landlord reserves the right to establish, modify and enforce reasonable parking rules and regulations.

30. Plumbing, fixtures and appliances shall be used only for the purposes for which designed, and no sweepings, rubbish, rags or other unsuitable material shall be thrown or deposited therein. Damage resulting to any such fixtures or appliances from misuse by a tenant or its agents, employees or invitees, shall be paid by such tenant.

31. Movement in or out of the Building for the purposes of construction, furniture/office equipment deliveries, or dispatch/receipt by tenants of any bulky material, merchandise or materials which require use of elevators or stairways, or movement through the Building entrances or lobby shall be conducted under Landlord's supervision at such times and in such a manner as Landlord may reasonably require. All such activities must be performed during non-business hours. Business hours are 8am-6pm, Monday -Friday and 8am-1pm Saturdays. Each tenant assumes all risks of and shall be liable for all damage to articles moved and injury to persons or public engaged or not engaged in such movement, including equipment, property and personnel of Landlord if damaged or injured as a result of acts in connection with carrying out this service for such tenant.

32. To ensure orderly operation of the Building, no ice, mineral or other water, towels, newspapers, etc. shall be delivered to any leased area except by persons approved by Landlord.

33. Landlord will not be responsible for lost or stolen personal property, money or jewelry from Tenant's leased premises or public or common areas regardless of whether such loss occurs when the area is locked against entry or not.

34. Tenant shall not conduct any activity on or about the Premises or Building which will draw pickets, demonstrators, or the like.

35. No tenant may enter into phone rooms, electrical rooms, mechanical rooms, or other service areas of the Building unless accompanied by Landlord or Building manager

36. Tenant shall not permit its employees, invitees or guests to smoke (including without limitation the smoking of electronic cigarettes, e-cigarettes and vapor pens) in the Premises or the lobbies, passages, corridors, elevators, vending rooms, rest rooms, stairways or any other area shared in common with other tenants in the Building, or permit its employees, invitees, or guests to loiter at the Building entrances for the purpose of smoking. Landlord may, but shall not be required to, designate an area for smoking outside the Building and more than five feet from any entrance/exit to the building.

Specific Requirements for Contractors:

Business Hours: Normal Business hours are 8:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 1:00 p.m. on Saturday.

1. The following work must be done on overtime and not during normal business hours:
    - Demolition above and below occupied space which may cause disruption to other tenants in the building on other floors.
    - Coring for electrical/telephone floor outlets above occupied space.
    - Oil based or "Polymyx" painting on occupied multi-tenant floors (latex paint work allowed).
    - Any work performed outside of project site.
    - Shooting of studs into deck for mechanical fastening devices (allowed until 8:00 a.m.) under occupied floors. Property Manager must be notified in advance in order to inform other tenants this work will be performed.
    - Drilling into deck for mechanical devices (allowed until 8:00 a.m.)
    - Testing of life safety and sprinkler tie-ins.
    - Deliveries via tractor/trailer trucks unless previously approved by Property Manager.

2. Dollies and carts should be fitted with rubber wheels but not allowed in Lobby.

3. Dragging of ladders, dropping of material is to be avoided over occupied floors.

4. All work performed outside of project site must be coordinated with the Property Manager from Related Beal.

5. Notification for Requests: The contractor must notify the Property Management Office forty- eight hours in advance, in writing, for approval on the following requests. Notice should be sent to: jdoherty@relatedbeal.com, with copies to: kgearin@relatedbeal.com. Emergency service may be provided with 24 hours' notice.
    - Freight elevator usage after hours
    - Sprinkler/life safety shutdown
    - HVAC shutdown
    - Access to site after normal business hours
    - Major deliveries and tenant relocations
    - Coordination with building staff
    - Trash removal operation
    - Security detail

- Any work/activity not noted above or performed during non-business hours

6. Parking: There is no contractor parking available at the Receiving Area. The Receiving Area is to be used for unloading equipment and materials only.

7. Freight Elevator: One passenger elevator doubles as the freight when properly padded. The freight elevator must be used at all times to access or egress the work area. Construction workers should not use the emergency stairwells to access other floors unless and emergency situation arises or as approved by property management.

8. Demolition: Contractor must use hard plastic hampers to transport debris from work area to loading dock. Queue on the work floor while transporting debris.

9. Deliveries: Absolutely no deliveries will be allowed through the main lobby. Deliveries must be scheduled in advance with the Property Management Office to coordinate the use of the loading area on Inman St. and the freight elevator. The delivery of sheet rock, light fixtures and other like material must be scheduled during non-business hours unless approved by the Property Manager or on-site staff. '

10. Cleaning & Rubbish Removal: The contractor is responsible for leaving the freight elevator and related work areas "broom clean". The contractor will incur costs for cleanup if areas are left dirty, including servicing of freight elevator for demolition debris not transported properly. Rubbish cannot be stored in the work area and must be disposed of on a regular basis.

11. Permit: Contractor will post building permit, preferably on a conspicuous wall of the construction site while work is being performed. Contractor shall supply Property Manager with a copy of all permits prior to the start of any work.

12. Suite Carpet Protection: Prior to demolition, if carpet is to remain in the suite, it is to be protected by a heavy plastic cover or removed, stored and re-installed upon completion of work.

13. Common Area Carpet/Flooring Protection: Public area corridor and carpet is to be protected by plastic runners or a series of walk-off mats from the elevator to the suite under construction. Walk- off mats are to be provided at entrance doors.

14. Screening: Contractor shall provide heavy plastic screening for dust protection and/or temporary walls of suitable appearances as required by Property Management to screen the construction site.

15. Window Treatment Protection: Window treatments within a suite or affected area must be bagged and protected prior to commencement of work.

16. Utilities-No Interruption: No utilities (electricity, water, gas, and plumbing) or services to the tenants are to be cut off or interrupted without first having requested, in writing, and secured, in writing, the permission of the Property Manager.

17. Electrical Service: No electrical services are to be put on the emergency circuit, without specific written approval from the Property Manager.

18. Utility Meters: If utility meter installation is required, contractor must provide the Property Manager with a copy of the operating instructions for that particular meter.

19. Contractor/Subcontractor Employee Listing and Schedules: The Property Manager will be notified of all work schedules of all workmen on the job and will be notified, in writing, of names of those who may be working in the Building after "normal" business hours. If Building Management employee works after normal hours, the tenant will be billed for his time.

20. Contractor/Subcontractor Employee Specific Behavior:

- Radios are allowed at a reasonable noise level
- All workers are required to wear a shirt, shoes and full-length trousers
- Protection of hallway carpets, wall coverings, granite and marble and elevators from damage with Masonite board, carpet, cardboard or pads is required.
- Public spaces, corridors, elevators, restrooms, lobby, etc. must be cleaned immediately after use. Construction debris or materials found in public areas will be removed at the offender's cost.• No smoking (including without limitation electronic cigarettes, a-cigarettes and vapor pens), eating or open food containers in the elevators, carpeted areas, building perimeter or public lobbies.
- No yelling or boisterous activities.
- There will be no alcohol or controlled substances allowed or tolerated. Individuals under their influence or in possession of such will be prosecuted.

21. Contractor shall post no signs without Property Manager's express approval, which may be withheld for any reason.

22. All construction materials or debris must be stored within the project confines or in an approved lock-up. There will not be any materials stored in the stairwells.

23. Any work performed on base building systems (i.e. roofing, HVAC, glass curtain wall, etc.) that could impact existing warranties shall be coordinated with the Property Manager prior to performing said work. If the Property Manager stipulates that a certain company/subcontractor/vendor must be used in order to preserve a warranty, then the Contractor shall comply.

24. Contractors shall be permitted to use the janitor's sink for water supply on the floor(s) on which the construction occurs, however, contractors shall ensure that no drywall, mud, flammables or any other substance that could stop up the sanitary sewer system or be potentially hazardous, are put therein.

25. This is a "No Smoking" Building. Electronic Cigarettes, e-cigarettes and vapor pens may also not be used inside the building.

Tenant Contraction Rules and Regulations (Alterations/ Tenant’s Work)

General Requirements

1. Client must submit Construction Documents (plans and specifications) to Property Management for approval. A minimum of four (4) weeks or the time period required under the lease document, whichever is longer, is needed prior to commencement of the project.

2. The Property Management reserves the right to approve and restrict any sub-contractor, contractor or employee for any trade performing work in the building. A pre-qualification statement must be submitted to Building Management for subcontractors who have not performed work with Building Management within the last two (2) years or on jobs of comparable size and dollar value.

3. Record of As-built drawings must be submitted within 30 days of the completion of the project.

4. Client must submit to Building Management the following items two (2) weeks prior to the commencement of the project.

A. Name of General Contractor/Construction on Management Firm
B. Sub-contractor list for approval
C. Certificates of Insurance from general contractor and subcontractor in compliance with insurance guidelines. RREF II 451 D, LLC; Related Beal Management, LLC as Managing Agent; Related Beal, LLC; KREF Lending I LLC, ISAOA, ATIMA; LREF Capital, LLC and all Other Lenders must be named as additional insured; and RREF II 451D, LLC, c/o Related Beal Management, LLC, as Managing Agent shall be named as the certificate holder.
D. Copy of Demolition Permit (if applicable).
E. Copy of Building Permit
F. Copy of Long-Form or Fast-Tract Application to Building Department
G. Construction Schedule
H. Project directory to include: Name of firm, address, contacts and telephone number

5. Client must submit Certificate of Occupancy at completion of project

6. Client must schedule a project meeting with Building Management construction coordinator two (2) weeks prior to commencement of project.

Weekly project meetings are required for major construction projects. The Building Management construction coordinator may attend meetings as deemed necessary. The construction coordinator must receive a copy of the minutes on a weekly basis.

7. Air balancing by contractor is required two (2) weeks before project is completed.

8. Testing of sprinkler system and fire protection devices is required two (2) weeks prior to completion of project and to obtain Certificate of Occupancy.

9. The Building Management design/engineering review team may inspect contractor work in progress for compliance with applicable code and building standards.

10. Building Management reserves the right to restrict life safety design (sprinkler and fire protection) to its approved design engineers.

11. All contractor work shall be performed in accordance with all applicable laws and codes, Boston Fire Department and Building Management Construction Guidelines.

12. Two hundred pound (200 lb) pressure test of sprinkler system is required two (2) weeks prior to completion of project. Sprinkler contractor test certificates are due to Building Management at that time.

13. Sprinkler contractor must provide five (5) sets of sprinkler drawings for approval by the insurance company.

14. All questions should be referred to Related Beal Management at 451 D Street, Boston, MA 02210, Attention: Jenna Doherty, Senior Property Manager - or via email to Jenna Doherty at jdoherty@relatedbeal.com telephone number (617) 737-3462.

Vendor/Subcontractor Insurance Specifications:

1. General Liability coverage in the form of a Comprehensive General Liability policy or a Commercial Liability policy with a broad form of CGL endorsement included in the coverage. The insurance company issuing said policy must be rated B+ or better by Best's ratings.

2. The general liability in Item #1 must be on an occurrence basis with per occurrence and aggregate limits of liability of no less than $5,000,000. This limit can be provided through a combination of primary general

liability policy and an umbrella liability policy or other multi-property "blanket" liability coverage. If there are any deductibles or self-insured retention, please state this.

3. Automobile liability coverage no less than $1,000,000 combined single limit each occurrence and Worker's Compensation coverage must be Statutory and no less than $500,000.

4. The following MUST be named as additional insured as their interests may appear:

Certificate holder:

RREF II 451D, LLC c/o Related Beal Management, LLC, as Managing Agent

Additional insured must be exactly as follows - no exceptions:

RREF II 451 D, LLC
Related Beal Management, LLC, as Managing Agent Related Beal, LLC
KREF Lending I LLC, ISAOA, ATIMA LREF Capital, LLC
(and all Other Lenders identified by Landlord)

This information **MUST** appear as indicated above. If you have any questions, please feel free to call the office at (617) 737-3462.

5. Should any of the above described policies be canceled, not renewed, changed materially in amount of coverage or changed in insuring form, the vendor/subcontractor's insurance company will give 30 days prior written notice to Related Beal Management at 451 D Street, Suite 102A, Boston, MA 02210, Attention: Jenna Doherty, Senior Property Manager - or via email to Jenna Doherty at jdoherty@relatedbeal.com telephone number (617) 737-3462.

Please note that Related Beal's minimum requirements, as noted above and attached, in no way restricts your liability for any claims in excess of your policy limits Landlord reserves the right to rescind any of these rules and make such other and further reasonable rules and regulations as in Landlord'**s** judgment shall from time to time be needed for the safety, protection, care and cleanliness of the Building, the operation thereof, the preservation of good order therein, and the protection and comfort of its Tenants, their agents, employees, and invitees, which rules when made and notice thereof given to a Tenant shall be binding upon Tenant in the manner as if originally prescribed.

Landlord desires to maintain high standards of environmental comfort and convenience for the Tenants of Building. It will be appreciated if any undesirable conditions, lack of courtesy or attention are reported directly to the management.

451 D Street, Boston MA

CDISTTRACTOR / VENDOR INSURANCE REQUIREMENTS

CERTIFICATE HOLDER:
RREF B 451Dr LLC
c/o Related Beal Management. LLC, as Managing Agent
117 Milk Street
Boston, MA 02109 **The following Certificate Holder and Additional insured MUST be properly listed on the COI:**

RREF 4 451 D. LLC
Related Beal Management, LLC, as Managing Agent
Related Beal, LLC
KREF landing I LLC, ISAOA, ATIMA
LREF Capital, LLC
ADDITIONAL INSURED:

(a). Worker's Compensation Insurance as required by state law, endorsed to include Other States Coverage and to include a Waiver of Our Right to Others Endorsement:

(b). Employer's Liability Insurance with a limit of not less than $1,000,000 (or more if required by Massachusetts law) and subcontractors from any and all liability under the aforementioned act(s) or similar statute(s):

(c). Commercial General Liability Insurance (including Contractor's Protective Liability) in an amount not less than $5,000,000 per occurrence whether involving personal injury liability (or death resulting there from) or property damage liability or combination thereof (combined single limit coverage) contractors, subcontractors, or sub-subcontractors, or by anyone directly employed by them. Coverage shall include premises-operations; products and completed operations; elevators and hoists liability; independent contractors and subcontractors liability; contractual liability assumed under this Lease; personal and advertising injury liability; and premises medical payments;

(d). Business Automobile Liability Insurance, covering all vehicles, whether owned, non-owned, hired, or borrowed, in an amount not less than $1,000,000 per occurrence, combined single limit bodily injury and property damage liability.

(e). Builder's Risk Insurance in form and amount reasonably satisfactory to Landlord based upon the scope of work.

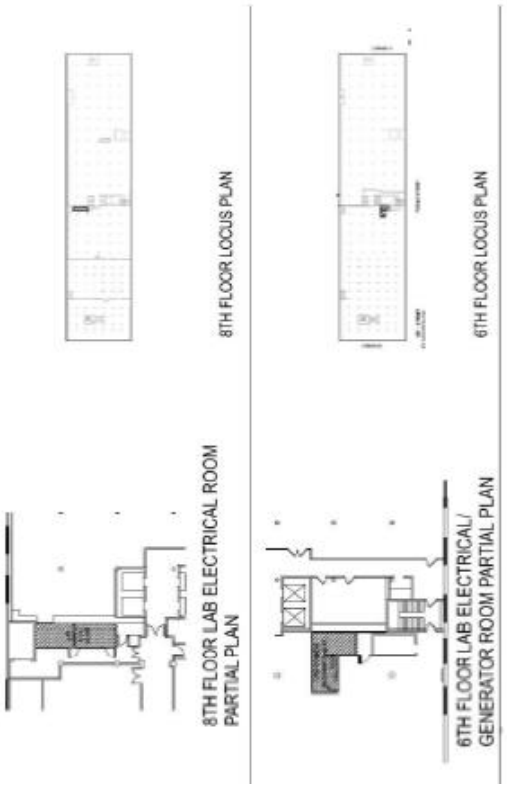
All such insurance shall be affected with insurers approved by Landlord, authorized to do business in Massachusetts under valid and enforceable policies naming Landlord, Landlord's managing agent and landlord's Mortgagees as additional insured's. Such insurance shall provide that it shall not be cancelled or modified without at least thirty (30) days' prior written notice to each insured name therein. On or Before the time any contractor enters the premises and thereafter not less than fifteen (15) days prior to the expiration date of each expiring policy, original copies of the policies for each of the required insurance issued by such insurers together with evidence satisfactory to Landlord of the payment of all premiums for such be delivered to Landlord and certificates as aforesaid of such policies shall upon request of Landlord, be delivered to the holder to the any mortgage affecting the premises.

Any questions, please-call: 617-737-3462
Email Copy to:

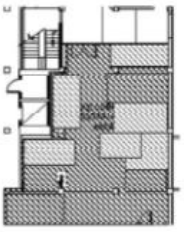
451D@relatedbeal-com

EXHIBIT 6

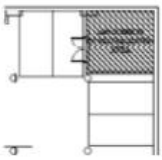
COMMON LABORATORY FACILITIES



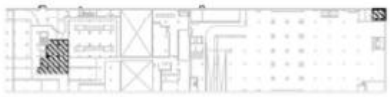
(Neutralization System Location(s) – actual location to be determined)



BSMT PH ROOM WEST
PARTIAL PLAN



BSMT PH ROOM EAST
PARTIAL PLAN



BASEMENT LOCUS PLAN

EXHIBIT 7-A

APPROVED CONSTRUCTION PLANS

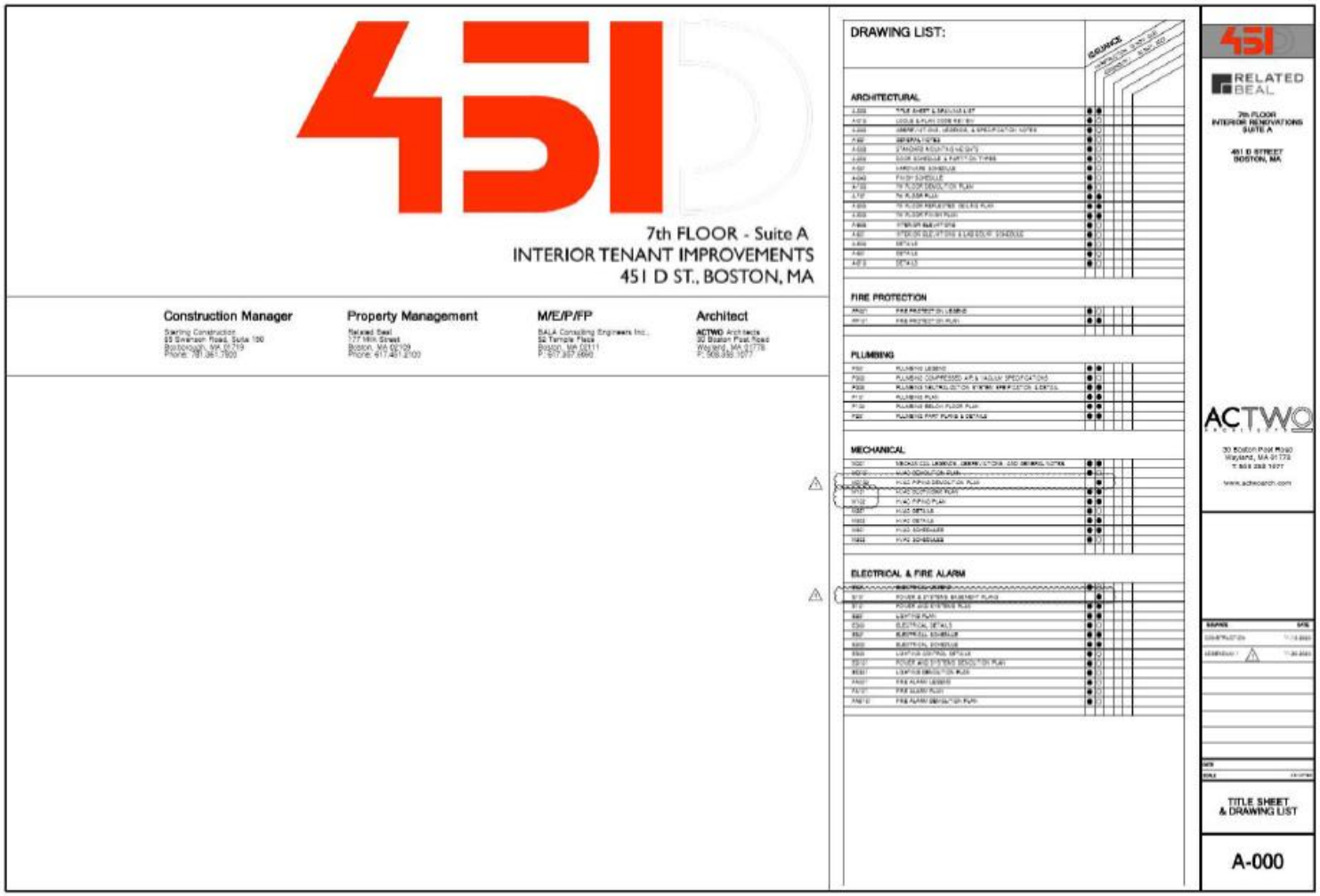
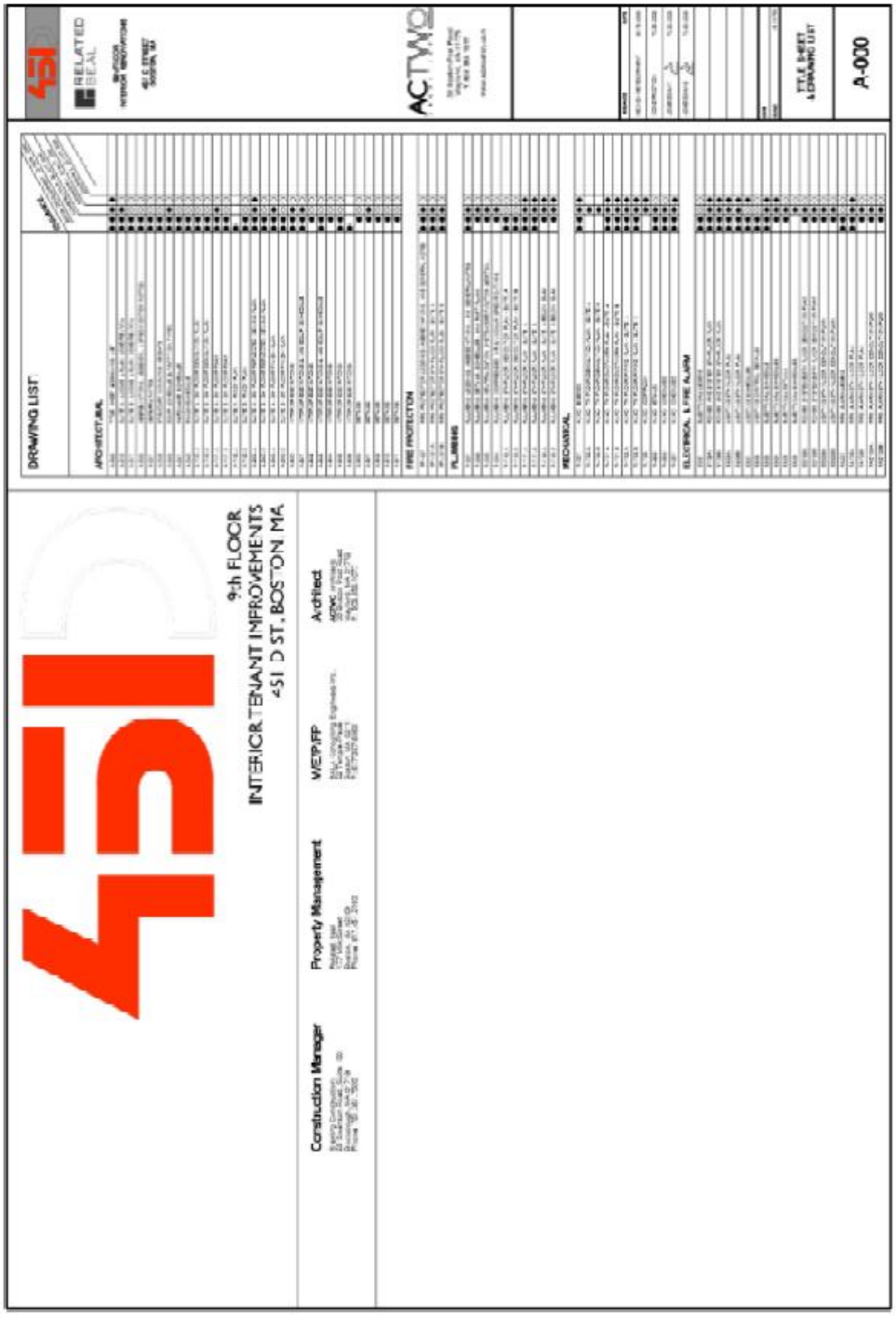
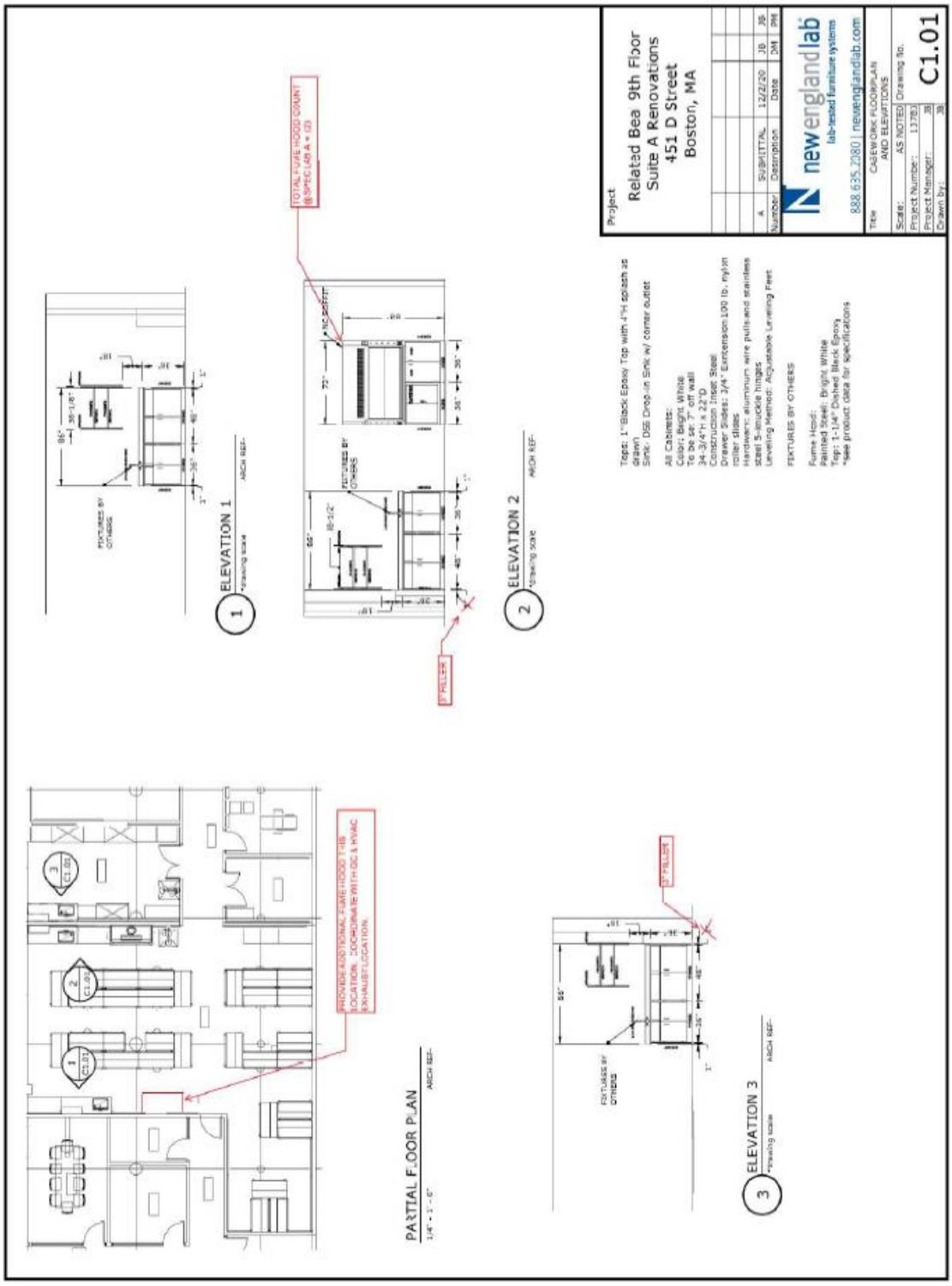

451
7th FLOOR - Suite A
INTERIOR TENANT IMPROVEMENTS
451 D ST., BOSTON, MA
Construction Manager
Sterling Construction
99 Shannon Road, Suite 100
Boxborough, MA 01719
Phone: 781.361.7500
Property Management
Related Beal
177 16th Street
Boston, MA 02129
Phone: 617.451.2100
M/E/P/FP
BALA Consulting Engineers Inc.,
56 Temple Place
Boston, MA 02111
P: 617.357.6660
Architect
ACTWO Architects
30 Boston Post Road
Wayland, MA 01778
P: 508.358.1077
DRAWING LIST:
ISSUANCE
ARCHITECTURAL
A-000 TITLE SHEET & DRAWING LIST
A-001 CODE & PLAN ZONE REVIEW
A-002 SYMBOLS, LEGENDS, & SPECIFICATION NOTES
A-100 DEMOLITION PLAN
A-101 LAYOUT PLAN
A-102 DOOR SCHEDULE & PARTITION TYPES
A-103 HARDWARE SCHEDULE
A-104 FINISH SCHEDULE
A-105 7th FLOOR DEMOLITION PLAN
A-106 7th FLOOR PLAN
A-107 7th FLOOR REFLECTED CEILING PLAN
A-108 7th FLOOR FURNITURE PLAN
A-109 INTERIOR ELEVATIONS
A-110 STAIR 03 ELEVATIONS & LANDSCAPE STAIR DETAILS
A-111 DETAILS
A-112 DETAILS
A-113 DETAILS
FIRE PROTECTION
FP001 FIRE PROTECTION LEGEND
FP101 FIRE PROTECTION PLAN
PLUMBING
P001 PLUMBING LEGEND
P002 PLUMBING COMPRESSED AIR & VACUUM SPECIFICATIONS
P003 PLUMBING NEUTRALIZATION SYSTEM SPECIFICATION & DETAIL
P101 PLUMBING PLAN
P102 PLUMBING BELOW FLOOR PLAN
P201 PLUMBING RISER DIAGRAMS & DETAILS
MECHANICAL
M001 MECHANICAL LEGENDS, ABBREVIATIONS, AND GENERAL NOTES
M101 HVAC DEMOLITION PLAN
M101.1 HVAC PIPING DEMOLITION PLAN
M101.2 HVAC DUCTWORK PLAN
M102 HVAC PIPING PLAN
M201 HVAC DETAILS
M202 HVAC DETAILS
M301 HVAC SCHEDULES
M302 HVAC SCHEDULES
ELECTRICAL & FIRE ALARM
E001 ELECTRICAL LEGENDS
E101 POWER & SYSTEMS ASSEMBLY PLAN
E102 POWER AND SYSTEMS PLAN
E201 LIGHTING PLAN
E202 ELECTRICAL DETAILS
E301 ELECTRICAL SCHEDULES
E302 ELECTRICAL SCHEDULES
E303 LIGHTING CONTROL DETAILS
E401 POWER AND SYSTEMS DEMOLITION PLAN
E501 LIGHTING DEMOLITION PLAN
FA001 FIRE ALARM LEGENDS
FA101 FIRE ALARM PLAN
FA201 FIRE ALARM DEMOLITION PLAN
RELATED BEAL
7th FLOOR
INTERIOR RENOVATIONS
SUITE A
451 D STREET
BOSTON, MA
ACTWO
30 Boston Post Road
Wayland, MA 01778
T: 508.358.1077
www.actwoarch.com
ISSUANCE
DATE
SCALE
TITLE SHEET
& DRAWING LIST
A-000

EXHIBIT 7-B

APPROVED SWING PREMISES PLANS



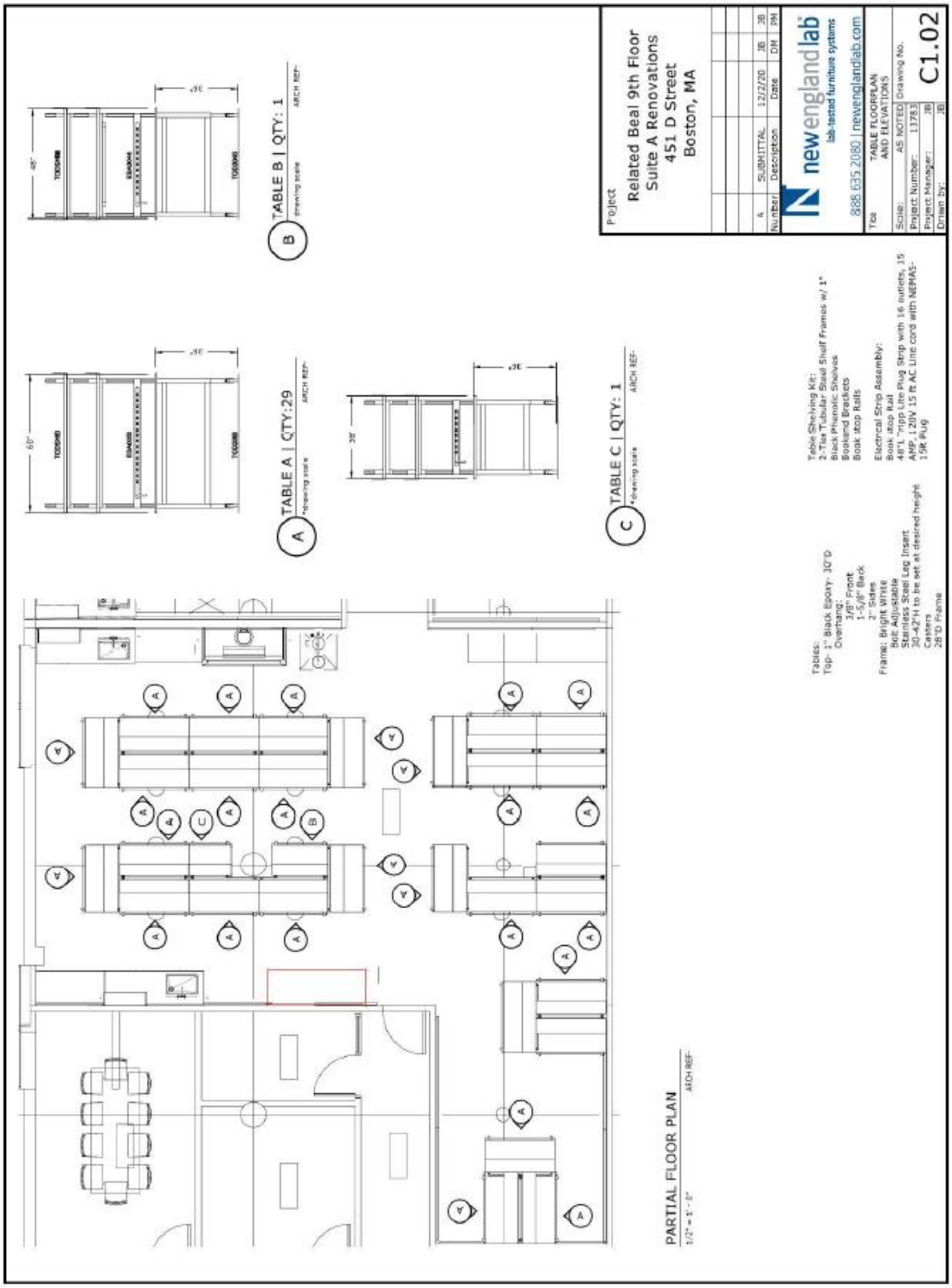
AS THE ABOVE PLANS ARE MODIFIED BY DRAWINGS #C1.01-03 SHOWN ON THE



FOLLOWING THREE PAGES:

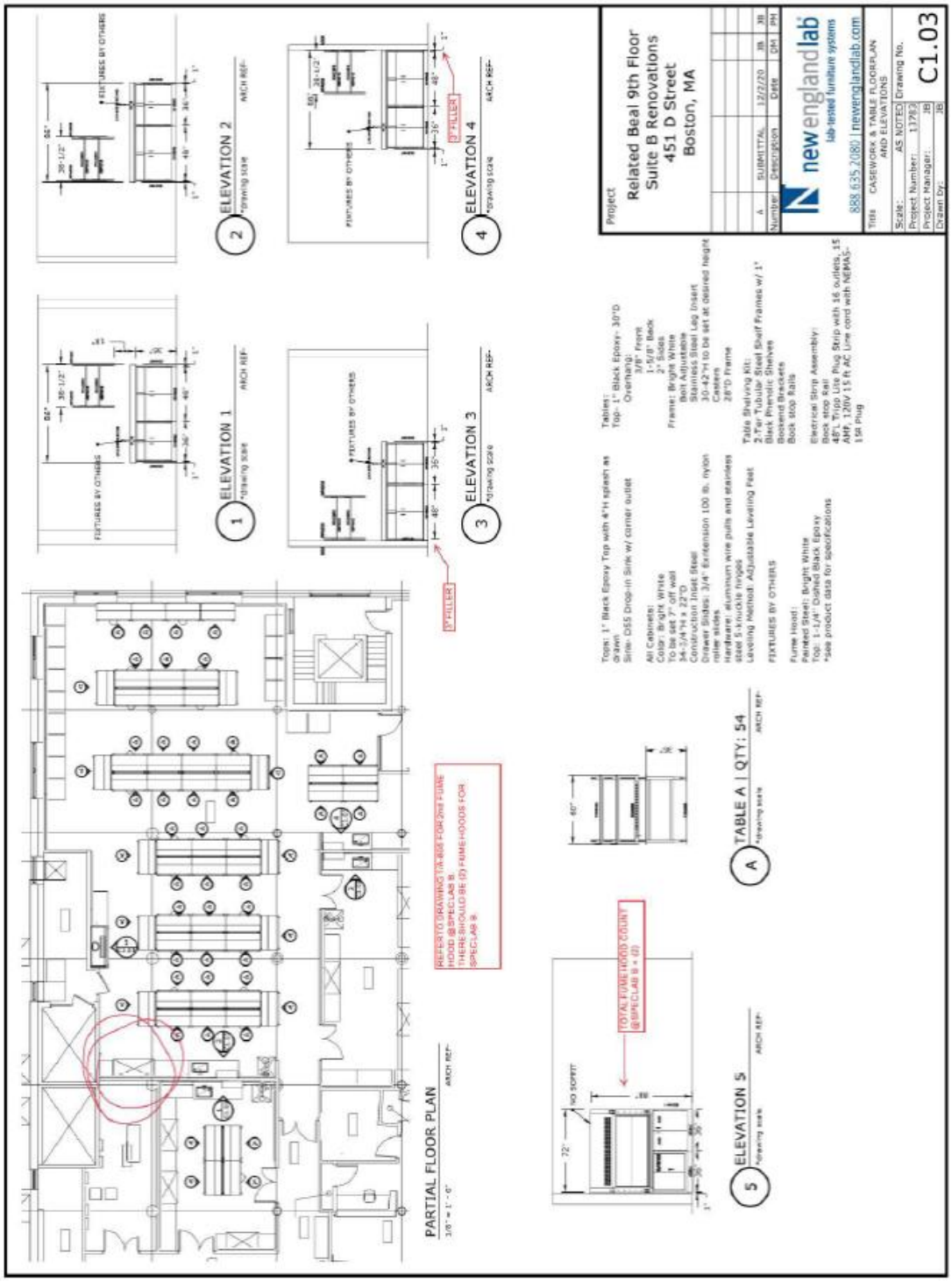
Note: All furniture and equipment shown hereon is for illustrative purposes only and (unless so identified

in other construction documents) is not part of Landlord's Swing Premises Work.



Note: All furniture and equipment shown hereon is for illustrative purposes only and (unless so identified

in other construction documents) is not part of Landlord's Swing Premises Work.



Note: All furniture and equipment shown hereon is for illustrative purposes only and (unless so identified

in other construction documents) is not part of Landlord's Swing Premises Work.

EXHIBIT 8

FORM OF LETTER OF CREDIT

IRREVOCABLE STANDBY LETTER OF CREDIT NO.

DATE:

BENEFICIARY:
RREF II 451D, LLC
c/o Related Beal
177 Milk Street
Boston, Massachusetts 02109

APPLICANT:

_____
_____

AMOUNT: US $ _____ (_____ AND 00/100 U.S. DOLLARS)

EXPIRATION DATE: _____

LOCATION: AT OUR COUNTERS IN BOSTON, MASSACHUSETTS DEAR SIR/MADAM:

WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. _____ IN YOUR FAVOR AVAILABLE BY YOUR DRAFT DRAWN ON US AT SIGHT IN THE FORM OF EXHIBIT "B" ATTACHED AND ACCOMPANIED BY THE FOLLOWING DOCUMENTS:

1.THE ORIGINAL OF THIS LETTER OF CREDIT AND ALL AMENDMENT(S), IF ANY. A DATED CERTIFICATION FROM THE BENEFICIARY SIGNED BY AN AUTHORIZED OFFICER OR AGENT, FOLLOWED BY ITS DESIGNATED TITLE, STATING THE FOLLOWING:

(A)"THE AMOUNT REPRESENTS FUNDS DUE AND OWING TO US FROM APPLICANT PURSUANT TO THAT CERTAIN LEASE BY AND BETWEEN BENEFICIARY, AS LANDLORD, AND APPLICANT, AS TENANT."

OR

(B)"WE HEREBY CERTIFY THAT WE HAVE RECEIVED NOTICE FROM _____ BANK THAT LETTER OF CREDIT NO. _____ WILL NOT BE RENEWED, AND THAT WE HAVE NOT RECEIVED A REPLACEMENT OF THIS LETTER OF CREDIT FROM APPLICANT SATISFACTORY TO US AT LEAST THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE OF THIS LETTER OF CREDIT.

IRREVOCABLE STANDBY LETTER OF CREDIT NO. _____

DATED

THE LEASE AGREEMENT MENTIONED ABOVE IS FOR IDENTIFICATION PURPOSES ONLY AND IT IS NOT INTENDED THAT SAID LEASE AGREEMENT BE INCORPORATED HEREIN OR FORM PART OF THIS LETTER OF CREDIT

OUR OBLIGATION UNDER THIS CREDIT SHALL NOT BE AFFECTED BY ANY CIRCUMSTANCES, CLAIM OR DEFENSE, REAL OR PERSONAL, OF ANY PARTY AS TO THE ENFORCEABILITY OF THE LEASE BETWEEN YOU AND TENANT, IT BEING UNDERSTOOD THAT OUR OBLIGATION SHALL BE

THAT OF A PRIMARY OBLIGOR AND NOT THAT OF A SURETY, GUARANTOR OR ACCOMMODATION MAKER. IF YOU DELIVER THE WRITTEN CERTIFICATE REFERENCED ABOVE TO US, (I) WE SHALL HAVE NO OBLIGATION TO DETERMINE WHETHER ANY OF THE STATEMENTS THEREIN ARE TRUE, (II) OUR OBLIGATIONS HEREUNDER SHALL NOT BE AFFECTED IN ANY MANNER WHATSOEVER IF THE STATEMENTS MADE IN SUCH CERTIFICATE ARE UNTRUE IN WHOLE OR IN PART, AND (III) OUR OBLIGATIONS HEREUNDER SHALL NOT BE AFFECTED IN ANY MANNER WHATSOEVER IF TENANT DELIVERS INSTRUCTIONS OR CORRESPONDENCE TO WHICH EITHER (A) DENIES THE TRUTH OF THE STATEMENT SET FORTH IN THE CERTIFICATE REFERRED TO ABOVE, OR (B) INSTRUCTS US NOT TO PAY BENEFICIARY ON THIS CREDIT FOR ANY REASON WHATSOEVER.

PARTIAL AND MULTIPLE DRAWS ARE ALLOWED. EXCEPT AS EXPRESSLY SET FORTH HEREIN, THIS LETTER OF CREDIT MUST ACCOMPANY ANY DRAWINGS HEREUNDER FOR ENDORSEMENT OF THE DRAWING AMOUNT AND WILL BE RETURNED TO THE BENEFICIARY UNLESS IT IS FULLY UTILIZED.

DRAFT(S) AND DOCUMENTS MUST INDICATE THE NUMBER AND DATE OF THIS LETTER OF CREDIT.

THIS LETTER OF CREDIT SHALL BE AUTOMATICALLY EXTENDED FOR AN ADDITIONAL PERIOD OF ONE YEAR, WITHOUT AMENDMENT, FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE UNLESS AT LEAST SIXTY (60) DAYS PRIOR TO THE THEN CURRENT EXPIRATION DATE WE NOTIFY YOU BY REGISTERED MAIL/OVERNIGHT COURIER SERVICE AT THE ABOVE ADDRESSES THAT THIS LETTER OF CREDIT WILL NOT BE EXTENDED BEYOND THE CURRENT EXPIRATION DATE. IN NO EVENT SHALL THIS LETTER OF CREDIT BE AUTOMATICALLY EXTENDED BEYOND SIX (6) MONTHS BEYOND LEASE EXPIRATION.

THIS LETTER OF CREDIT MAY BE TRANSFERRED WITHOUT COST TO THE BENEFICIARY, ONE OR MORE TIMES BUT IN EACH INSTANCE TO A SINGLE BENEFICIARY AND ONLY IN THE FULL AMOUNT AVAILABLE TO BE DRAWN UNDER THE LETTER OF CREDIT AT THE TIME OF THE TRANSFER AND ONLY BY THE ISSUING BANK UPON OUR RECEIPT OF THE ATTACHED “EXHIBIT A” DULY COMPLETED AND EXECUTED BY THE BENEFICIARY AND ACCOMPANIED BY THE ORIGINAL LETTER OF CREDIT AND ALL AMENDMENTS, IF ANY.

ALL DEMANDS FOR PAYMENT SHALL BE MADE BY PRESENTATION OF THE ORIGINAL APPROPRIATE DOCUMENTS PRIOR TO 10:00 A.M. E.S.T. TIME, ON A BUSINESS DAY AT OUR OFFICE (THE “BANK’S OFFICE”) AT: _____

BOSTON, MASSACHUSETTS _____, ATTENTION: _____ OR BY FACSIMILE TRANSMISSION AT: (617) ____-_____; AND SIMULTANEOUSLY UNDER TELEPHONE ADVICE TO: (617) _____-_____, ATTENTION: _____ WITH ORIGINALS TO FOLLOW BY OVERNIGHT COURIER SERVICE.

PAYMENT AGAINST CONFORMING PRESENTATIONS HEREUNDER SHALL BE MADE BY BANK DURING NORMAL BUSINESS HOURS OF THE BANK'S OFFICE WITHIN ONE (1) BUSINESS DAY AFTER PRESENTATION.

WE HEREBY AGREE WITH THE DRAWERS, ENDORSERS AND BONAFIDE HOLDERS THAT THE DRAFTS DRAWN UNDER AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS LETTER OF CREDIT SHALL BE DULY HONORED UPON PRESENTATION TO THE DRAWEE, IF NEGOTIATED ON OR BEFORE THE EXPIRATION DATE OF THIS CREDIT

THIS CREDIT IS SUBJECT TO THE INTERNATIONAL STANDBY PRACTICES 1998 (ISP98) INTERNATIONAL CHAMBER OF COMMERCE, PUBLICATION NO. 600.

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

EXHIBIT “A”

DATE:

TO:

RE: STANDBY LETTER OF CREDIT
NO. ISSUED

BY

ATTN: L/C AMOUNT:

LADIES AND GENTLEMEN:

FOR VALUE RECEIVED, THE UNDERSIGNED BENEFICIARY HEREBY IRREVOCABLY TRANSFERS TO:

(NAME OF TRANSFEREE)

(ADDRESS)

ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY TO DRAW UNDER THE ABOVE LETTER OF CREDIT UP TO ITS AVAILABLE AMOUNT AS SHOWN ABOVE AS OF THE DATE OF THIS TRANSFER.

BY THIS TRANSFER, ALL RIGHTS OF THE UNDERSIGNED BENEFICIARY IN SUCH LETTER OF CREDIT ARE TRANSFERRED TO THE TRANSFEREE. TRANSFEREE SHALL HAVE THE SOLE RIGHTS AS BENEFICIARY THEREOF, INCLUDING SOLE RIGHTS RELATING TO ANY AMENDMENTS, WHETHER INCREASES OR EXTENSIONS OR OTHER AMENDMENTS, AND WHETHER NOW EXISTING OR HEREAFTER MADE. ALL AMENDMENTS ARE TO BE ADVISED DIRECT TO THE TRANSFEREE WITHOUT NECESSITY OF ANY CONSENT OF OR NOTICE TO THE UNDERSIGNED BENEFICIARY.

THE ORIGINAL OF SUCH LETTER OF CREDIT IS RETURNED HEREWITH, AND WE ASK YOU TO ENDORSE THE TRANSFER ON THE REVERSE THEREOF, AND FORWARD IT DIRECTLY TO THE TRANSFEREE WITH YOUR CUSTOMARY NOTICE OF TRANSFER.

SINCERELY,

(BENEFICIARY’S NAME)

SIGNATURE OF BENEFICIARY

SIGNATURE AUTHENTICATED

(NAME OF BANK)

AUTHORIZED SIGNATURE

EXHIBIT “B”

DATE: _____ REF. NO. _____

AT SIGHT OF THIS DRAFT

PAY TO THE ORDER OF _____ US$_____

US DOLLARS _____
_____

DRAWN UNDER _____ BANK, BOSTON, MASSACHUSETTS, STANDBY
LETTER OF CREDIT NUMBER NO. _____ DATED_____

TO:_____ BANK

_____ _____
_____, MA ____ (BENEFICIARY’S NAME)

……..
Authorized Signature

EXHIBIT 9

CURRENT FORM OF PARKING LICENSE

License At-Will Parking Agreement

Licensor:	**RREF II 451D, LLC**
Licensee:	_____
Thirty Day Term:	Tenant acknowledges that it is renting the spaces below on a non-reserved basis for one month at a time. The monthly term shall automatically renew until one party provides the other with a notice of cancellation. This agreement shall be void 30 days after receipt of such notice without any need for any further notice or action by either party.
Rent:	Tenant shall pay Landlord _____ per space in Lot _____ due and payable prior to the first of each month. Tenant acknowledges that if the rent is not paid when due, Landlord has the ability to immediately revoke the Tenant's parking rights by giving same day notice to tenant.
Space(s):	The space(s) rented by Tenant is:
Insurances & Indemnification:	Both Landlord and Tenant acknowledge that they retain the insurances and indemnifications required under the Lease between them and that these insurances and indemnifications shall extend to this agreement.
Miscellaneous:	Use. The parking facilities shall be used solely for the purpose of parking of up to but not more than ( ) passenger motor vehicles by Licensee or Licensee's employees and invitees (when on Premises) in connection with and appurtenant to the Licensee's use of its Premises located 451 D Street, Boston Massachusetts. Under no circumstances shall Licensee park or allow to be parked on the Licensed Premises trailers, trucks, motorcycles, scooters, vans, trailer homes, boats or other recreational vehicles, or any vehicles used for commercial use, or any vehicle with commercial advertising on its exterior including its roof. Compliance. Licensee shall comply with all laws, ordinance and regulations applicable to the use and occupancy of the parking facilities and its obligations under this License without any limitations, shall not make, suffer or permit any unlawful, improper or offensive use of the parking facilities, or permit any nuisance thereon, and shall also comply with all reasonable rules and regulations that Licensor may institute from time to time No Liability. All property of the Licensee upon the Licensed Premises shall be at the sole risk and hazard of Licensee. Licensor shall not be liable for the safe-keeping of any property of Licensee, nor for damage to or loss of any goods or property for any reason.

Agreed on this day of , 20

Landlord:	Tenant:
RREF II 451D, LLC	
_____ Duly Authorized	Print name: Print title: Duly authorized

EXHIBIT 10-A

BUILDING HAZARDOUS MATERIAL MATRIC (CURRENT)

December 2, 2020

451D Storage Matrix
Floor 7
Sensei: 10,082 / 43,594 rsf = 23% Allocation

Floor	Tenant
7	Sensei 12-2-2020

	Class	Adjusted for both A.S. & Cab.	% Above or Below Grade	Control Areas	Net Storage Permitted	Storage Permitted SF	Inventory	Available	Units
Liquids	Flammable: IA	120	0.05	2	12	2.78	0	2.78	gallons
	Flammable: IB & IC	480	0.05	2	48	11.10	4.85	6.25	gallons
	Combined Class I	480	0.05	2	48	11.10	4.85	6.25	gallons
	Combustible: Class II	480	0.05	2	48	11.10	0	11.10	gallons
	Combustible: Class IIIA	1320	0.05	2	132	30.53	0.0411	30.49	gallons
	Combustible: Class IIIB	52800	0.05	2	5280	No Limit	0.44	No Limit	gallons

	Class	Adjusted for both A.S. & Cab.	% Above or Below Grade	Control Areas	Net Storage Permitted	Storage Permitted SF	Inventory	Available	Units
Gas & Solids	Flammable Gas	2000	0.05	2	200	46.25	0	46.25	ft^3 at STP
	Flammable Solid	250	0.05	2	25	5.78	0	5.78	lbs
	Pyrophoric Material	4	0.05	2	0.4	0.09	0	0.09	lbs
	Unstable Class 4	1	0.05	2	0.1	0.02	0	0.02	lbs
	Unstable Class 3	10	0.05	2	1	0.23	0	0.23	lbs
	Unstable Class 2	100	0.05	2	10	2.31	0	2.31	lbs
	Unstable Class 1	No Limit	0.05	2	No Limit	No Limit	0	No Limit	lbs
	Water Reactive Class 3	10	0.05	2	1	0.23	0	0.23	lbs
	Water Reactive Class 2	100	0.05	2	10	2.31	0	2.31	lbs
	Water Reactive Class 1	No Limit	0.05	2	No Limit	No Limit	0	No Limit	lbs

SF DISTRIBUTON		
Sensei 12-2-2020	Total	Allocation
10,082	43,594	0.23

EXHIBIT 10-B
LIST OF APPROVED HAZARDOUS MATERIALS AND QUANTITIES

Chemical Name	Amount
2-propanol	500 ml
Adenosine Triphosphaqe	1ml
Adenine Hemisulfate	100g
Agar bacteriological grade	250 g
Agarose. Pure Powder	25g
Bacto Peptone	500g
Blot qualfied BSA	10g
Bleach	121oz
Casamino acids	1kg
Chloroform	100ml
CoomasienFluor Orange protein gel	1L
CM Galactose Broth	10001
GM GLucose Broth	1000L
RPE buffer (for RNA purrfiation)	55ml
D(+}-Galactose	50g
D-(+)-Glucose for biotechnology	1kg
DMSO	150ml
Ethanol, 200 proof	1 gal
EDTA ultrapure 0.5M	100ml
Ultrapure Agarose	500q
Glycine	5kg
Glycogen (RNA grade)	0.1ml
Hydrochlorid Acid	50ml
Imadizol	500g
Isopropyl Alcohol Mol Bio Grade	500ml
Kanamycin Sulfate	25 g
Lithium Acetate	100ml
Lithium Chloride	500g
MES Free Acid Monohydrate	250g
NonFat Dairy Milk powder	500q
NuPaqe MES Runninq Buffer	500ml
Ovalbumin	5 g
Paraformaldahyde 16%	10ml
Phosphate Buffered Saline (x10)	500ml
Potassium Chloride	500q
10 % solution Sodium dodecyl sulfate	200 ml
Sodium Acetate (3M)	1ml
Sodium Chloride (crystalline)	500q
Sulfuric Acid 1.0N	1L
Pierce ELC Western Blottinq Substrate	50ml
Pierce Turbo-TBM ELISA 1-step	250ml
Tris-Acetate-EDTA (10x)	1L
Tris Hydrochloride	1kg
Trizol	200ml
Trizol	100ml
Tryptone	100g
Tween 20	1L
Yeast Extract	500g
Reaqent Alcohol 70%	1 L
Ampicillin	5g
GlutaMAX-l(100x)	100ml
Trypan Blue Stain (0.4%)	100ml
Phosphate Buffered Saline (x1)	500ml
Deionized Water	3.8L
E-Gel 1% Aqarose w/ SYBR Safe	10
SYBR Safe DNA qel stain	400ul
E-Gel Double Comb 1% Agarose w/ SYBR	10
Recovery Cell Culture Freezinq Media(DMS	50 ml
FlowClean Cleaninq Aqent	500ml
Water	1L
PBS buffer	15 packets

EXHIBIT 10-C

BUILDING HAZARDOUS MATERIAL MATRIC (CURRENT)
FOR THE SWING SPACE

October 15, 2020

451D Storage Matrix
Floor 9
Sensei: 6,557 / 54,575 rsf = 12% Allocation

Floor	Tenant
9	Sensei

	Class	% Above or Below Grade	Control Areas	Net Storage Permitted	Storage Permitted SF	Inventory	Available	Units
Liquids	Flammable: IA	0.05	2	12	1.44	0	1.44	gallons
	Flammable: IB & IC	0.05	2	48	5.77	4.22	1.55	gallons
	Combined Class I	0.05	2	48	5.77	4.22	1.55	gallons
	Combustible: Class II	0.05	2	48	5.77	0	5.77	gallons
	Combustible: Class IIIA	0.05	2	132	15.86	0.0711	15.79	gallons
	Combustible: Class IIIB	0.05	2	5280	No Limit	0.65	No Limit	gallons

	Class	% Above or Below Grade	Control Areas	Net Storage Permitted	Storage Permitted SF	Inventory	Available	Units	
Gas & Solids	Flammable Gas	0.05	2	200	24.03	0	24.03	ft^3 at STP	BFD Annual Permit Capacity Restrictions
	Flammable Solid	0.05	2	25	3.00	0	3.00	lbs	
	Pyrophoric Material	0.05	2	0.4	0.05	0	0.05	lbs	
	Unstable Class 4	0.05	2	0.1	0.01	0	0.01	lbs	
	Unstable Class 3	0.05	2	1	0.12	0	0.12	lbs	
	Unstable Class 2	0.05	2	10	1.20	0	1.20	lbs	
	Unstable Class 1	0.05	2	No Limit	No Limit	0	No Limit	lbs	
	Water Reactive Class 3	0.05	2	1	0.12	0	0.12	lbs	
	Water Reactive Class 2	0.05	2	10	1.20	0	1.20	lbs	
	Water Reactive Class 1	0.05	2	No Limit	No Limit	0	No Limit	lbs	

SF DISTRIBUTION		
Sensei	Total	Allocation
6,557	54,575	0.12

EXHIBIT 10-D

LIST OF APPROVED HAZARDOUS MATERIALS AND QUANTITIES FOR THE SWING SPACE

Chemical Name	Amount
EDTA ultrapure 0.5M	100ml
Ultrapure Agarose	500g
Glycine	5kg
Glycogen (RNA grade)	0.1ml
Hydrochlorid Acid	50m
Imidizol	1 kg
Isopropyl Alcohol Mol Bio Grade	500m!
Kanamycin Sulfate	25 g
Isoprypyl Alcohol	500ml
Lithium Acetate	100ml
Lithium Chloride	500g
MES Free Acid Monohydrate	25Qg
NonFat Dairy Milk powder	500g
NuPage MES Running Buffer	500ml
Ovalbumin	5 5
Paraformaldahyde 16%	10ml
Phosphate Buffered Saline (xlO)	500ml
Potassium Chloride	500g
Sodiul dodecyl sulfate	500ml
Sodium Acetate (3M)	1ml
Sodium Chloride (crystalline)	500g
Sulfuric Acid 1.ON	1L
Pierce ELC Western Blotting Substrate	50mi
Pierce Turbo-TBM ELISA 1-step	250ml
Tris-Acetate-EDTA (lOx)	1L
Tris Hydrochloride	1kg
Trizol	200ml
Trizol	100ml
Tryptone	L00g
Tween 20	1L
Yeast Extract	500g
Reagent Alcohol 70%	4L

[Ampici 11 in	5g
Gluta MAX-1 (lOOx)	100ml
Trypan Blue Stain (0.4%)	100m I
70% v/v denatured ethanol	1gal
|Phosphate Buffered Saline (xl)	500ml
Deionized Water	3.8L
E-Gel 1% Agarose w/ SYBR Safe	10
SYBR Safe DNAgel stain	400ul
E-Gel Double Comb 1% Agarose w/ SYBR Safe	10
Recovery Cell Culture Freezing Media(DMSO)	50mi
FlowClean Cleaning Agent	500m!
Water	1L
PBS buffer	15 packets

EXHIBIT 11

FORM OF CURRENT MORTGAGEE'S SNDA

This **SUBORDINATION, NON-DISTURBANCE, AND ATTORNMENT AGREEMENT** (the "Agreement") is dated as of [_ __], 202[_] and is by and among [_____, a _____, having an office at _____] _____] ("Landlord"), [_____, a _____, having an office at _____] (Tenant), and **[KREF ENTITY],** Delaware limited liability company, having an office at 9 West 57th Street, Suite 4200, New York, New York 10019 (together with their successors and assigns and such other co-lenders as may exist from toe to time, collectively, "Lender").

WHEREAS, Lender has made or intends to make a loan to Landlord and certain of its affiliates (the "Loan*"),* which Loan shall be evidenced by one or more promissory notes (as the same may be amended, modified, restated, severed, consolidated renewed, replaced, or supplemented from time to time the "***Promissory Note")*** *and* secured by, among other things, that certain Mortgage, Assignment of Leases and Rents, Security Agreement and Fixture Filing (as the same may be amended, restated, replaced, severed, split, supplemented or otherwise modified from time to time, the "Mortgage*")* encumbering the real property located at [_____] more particularly described on **Exhibit A** annexed hereto and made a part here of (the *"**Property**")',*

WHEREAS, by a lease agreement (the "Lease*")* dated [, 20], between Landlord (or Landlord's predecessor in title) and Tenant, Landlord leased to Tenant a portion of the Property, as said portion is more particularly described in the Lease (such portion of the Property hereinafter referred to as the *"**Premises**")',*

WHEREAS, Tenant acknowledges that Lender will rely on this Agreement in making the Loan to Landlord; and

WHEREAS, Lender and Tenant desire to evidence their understanding with respect to the Mortgage and the Lease as hereinafter provided.

NOW, THEREFORE, in consideration of the mutual agreements hereinafter set forth, the parties hereto hereby agree as follows:

Tenant covenants, stipulates and agrees that the Lease and all of Tenant's right, title and interest in and to the Property thereunder (including but not limited to any option to purchase, right of first refusal to purchase or right of first offer to purchase the Property or any portion thereof) is hereby, and shall at all times continue to be, subordinated and made secondary and inferior in each and every respect to the lien of the Mortgage ~~and the lien thereof, to all of the terms, conditions and provisions thereof~~ and to any and all advances made or to be made thereunder, so that at all times the Mortgage shall be and remain a lien on the Property prior to and superior to the Lease for all purposes, subject to the provisions set forth herein. Subordination is to have the same force and effect as if the Mortgage and such renewals, modifications, consolidations, replacements and extensions had been executed, acknowledged, delivered and recorded prior to the Lease, any amendments or modifications thereof and any notice thereof.

Lender agrees that if Lender exercises any of its rights under the Mortgage, including entry or foreclosure of the Mortgage or exercise of a power of sale under the Mortgage, Lender will not disturb Tenant's right to use, occupy and possess the Premises under the terms of the Lease so long as Tenant is not in default beyond any applicable grace period under any term, covenant or condition of the Lease.

If, at any time Lender (or any person, or such person's successors or assigns, who acquires the interest of Landlord under the Lease through foreclosure of the Mortgage or otherwise) shall succeed to the rights of Landlord under the Lease as a result of a default or event of default under the Mortgage, Tenant shall attorn to and recognize such person so succeeding to the rights of Landlord under the Lease (herein sometimes called *"Successor Landlord')* as Tenant's landlord under the Lease, said attornment to be effective and self-operative without the

execution of any further instruments. Although said attornment shall be self-operative, Tenant agrees to execute and deliver to Lender or to any Successor Landlord, such other instrument or instruments as Lender or such other person shall from time to time request in order to confirm said attornment.

Landlord authorizes and directs Tenant to honor any written demand or notice from Lender instructing Tenant to pay rent or other sums to Lender rather than Landlord (a "***Payment Demand***"), regardless of any other or contrary notice or instruction which Tenant may receive from Landlord before or after Tenant's receipt of such Payment Demand. Tenant may rely upon any notice, instruction, Payment Demand, certificate, consent or other document from, and signed by, Lender and shall have no duty to Landlord to investigate the same or the circumstances under which the same was given. Any payment made by Tenant to Lender or in response to a Payment Demand shall be deemed proper payment by Tenant of such sum pursuant to the Lease.

If Lender shall become the owner of the Property or the Property shall be sold by reason of foreclosure or other proceedings brought to enforce the Mortgage or if the Property shall be transferred by deed in lieu of foreclosure, Lender or any Successor Landlord shall not be:

liable for any act or omission of any prior landlord (including Landlord) or bound by any obligation to make any payment to Tenant which was required to be made prior to the time Lender succeeded to any prior landlord (including Landlord); or

obligated to cure any defaults of any prior landlord (including Landlord) which occurred, or to make any payment to Tenant which was required to be paid by any prior landlord (including Landlord), prior to the time that Lender, or any Successor Landlord succeeded to the interest of such landlord under the Lease; or

obligated to perform any construction obligations of any prior landlord (including Landlord) under the Lease or liable for any defects (latent, patent or otherwise) in the design, workmanship, materials, construction or otherwise with respect to improvements and buildings constructed on the Property; or

subject to any offsets, defenses or counterclaims which Tenant may be entitled to assert against any prior landlord (including Landlord); or

bound by any payment of rent or additional rent by Tenant to any prior landlord (including Landlord) for more than one month in advance; or

bound by any amendment, modification, termination or surrender of the Lease made without the written consent of Lender; or

liable or responsible for or with respect to the retention, application and/or return to Tenant of any security deposit paid to any prior landlord (including Landlord), whether or not still held by such prior landlord, unless and until Lender or any Successor Landlord has actually received said deposit for its own account as the landlord under the Lease as security for the performance of Tenant's obligation under the Lease (which deposit shall, nonetheless, be held subject to the provisions of the Lease).

Tenant hereby represents, warrants, covenants and agrees to and with Lender:

to deliver to Lender, by certified mail, return receipt requested, a duplicate of each notice of default delivered by Tenant to Landlord at the same time as such notice is given to Landlord and no such notice of default shall be deemed given by Tenant under the Lease unless and until a copy of such notice shall have been so delivered to Lender. Lender shall have the right (but shall not be obligated) to cure such default. Tenant shall accept performance by Lender of any term, covenant, condition or agreement to be performed by Landlord under the Lease with the same

force and effect as though performed by Landlord. Tenant further agrees to afford Lender a period of thirty (30) days beyond any period afforded to Landlord for the curing of such default during which period Lender may elect (but shall not be obligated) to seek to cure such default, or, if such default cannot be cured within that time, then such additional time as may be necessary to cure such default (including but not limited to commencement of foreclosure proceedings)

during which period Lender may elect (but shall not be obligated) to seek to cure such default, prior to taking any action to terminate the Lease. If the Lease shall terminate for any reason, upon Lender's written request given within thirty (30) days after such termination, Tenant, within fifteen (15) days after such request, shall execute and deliver to Lender a new lease of the Premises for the remainder of the term of the Lease and upon all of the same terms, covenants and conditions of the Lease;

that Tenant is the sole owner of the leasehold estate created by the Lease; and

to promptly certify in writing to Lender, in connection with any proposed assignment of the Mortgage, whether or not any default on the part of Landlord then exists under the Lease and to deliver to Lender any tenant estoppel certificates required under the Lease.

Tenant acknowledges that the interest of Landlord under the Lease is assigned to Lender solely as security for the Promissory Note, and Lender shall have no duty, liability or obligation under the Lease or any extension or renewal thereof, unless Lender shall specifically undertake such liability in writing or Lender becomes and then only with respect to periods in which Lender becomes, the fee owner of the Property.

This Agreement shall be governed by and construed in accordance with the laws of the State in which the Premises is located (excluding the choice of law rules thereof).

This Agreement and each and every covenant, agreement and other provisions hereof shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns (including, without limitation, any successor holder of the Promissory Note) and may be amended, supplemented, waived or modified only by an instrument in writing executed by the party against which enforcement of the termination, amendment, supplement, waiver or modification is sought.

All notices to be given under this Agreement shall be in writing and shall be deemed served upon receipt by the addressee if served personally or, if mailed, upon the first to occur of receipt or the refusal of delivery as shown on a return receipt, after deposit in the United States Postal Service certified mail, postage prepaid, addressed to the address of Landlord, Tenant, or Lender appearing below. Such addresses may be changed by notice given in the same manner. If any party consists of multiple individuals or entities, then notice to any one of same shall be deemed notice to such party.

If to Lender: [KREF ENTITY]
9 West 57th Street, Suite 4200
New York, New York 10019
Attention: Patrick Mattson
Email: Patrick.Mattson@kkr.com

with a copy to: Gibson Dunn & Crutcher LLP
200 Park Avenue
New York, New York 10166
Attention: [ ], Esq
Email: [ ]@gibsondunn.com

If to Tenant: _____
_____
_____
_____

With a copy to: _____
_____
_____
_____

If to Landlord: _____

With a copy to:

If this Agreement conflicts with the Lease, then this Agreement shall govern as between the parties and any Successor Landlord, including upon any attornment pursuant to this Agreement. This Agreement supersedes, and constitutes full compliance with, any provisions in the Lease that provide for subordination of the Lease to, or for delivery of nondisturbance agreements by the holder of, the Mortgage.

In the event Lender shall acquire Landlord's interest in the Premises, Tenant shall look only to the estate and interest, if any, of Lender in the Property for the satisfaction of Tenant's remedies for the collection of a judgment (or other judicial process) requiring the payment of money in the event of any default by Lender as a Successor Landlord under the Lease or under this Agreement, and no other property or assets of Lender shall be subject to levy, execution or other enforcement procedure for the satisfaction of Tenant's remedies under or with respect to the Lease, the relationship of the landlord and tenant under the Lease or Tenant's use or occupancy of the Premises or any claim arising under this Agreement.

If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to be enforceable, or if such modification is not practicable, such provision shall be deemed deleted from this Agreement, and the other provisions of this Agreement shall remain in full force and effect, and shall be liberally construed in favor of Lender.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first above written.

TENANT:

[ ]

By: _____
Name:
Title:

STATE OF _____)
) ss.

COUNTY OF _____)

On the _____ day of _____ in the year _____ before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

(Notarial Seal)

_____

Notary Public

[Signatures continue on following page]

LANDLORD:

[_____]

By: _____
Name:
Title:

STATE OF _____)
) ss.
COUNTY OF _____)

On the ___ day of _____ in the year _____ before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

(Notarial Seal)

_____
Notary Public

[Signatures continue on following page]

LENDER:

[KREF ENTITY]

By: _____
Name:
Title:

STATE OF _____)
) ss.
COUNTY OF _____)

On the ___ day of _____ in the year _____ before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

(Notarial Seal)

_____
Notary Public

Exhibit A

Legal Description of Property

(Attached)

EMPLOYMENT AGREEMENT

This **SECOND AMENDED AND RESTATED EMPLOYMENT AGREEMENT** (the "***Agreement***"), is entered into effective as of January 1, 2022 (the "***Effective Date")***, by and between Sensei Biotherapeutics, Inc. (the "***Company***") and Erin Colgan (the "***Executive***"). This Agreement amends restates, and supersedes in its entirety the Offer Letter between the Company and Executive dated June 10, 2020 (the "***Prior Agreement***"*).*

The Company desires to continue to employ Executive, now in the capacity of full-time Chief Financial Officer pursuant to the terms of this Agreement and, in connection therewith, to compensate Executive for Executive's personal services to the Company; and

Executive wishes to continue to be employed by the Company and provide personal services to the Company in return for certain compensation.

Accordingly, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 At-Will Employment. Executive shall continue to be employed by the Company on an "at-will" basis, meaning either the Company or Executive may terminate Executive's employment at any time, with or without cause or advanced notice. Any contrary representations that may have been made to Executive shall be superseded by this Agreement. This Agreement shall constitute the full and complete agreement between Executive and the Company on the "at-will" nature of Executive's employment with the Company, which may be changed only in an express written agreement signed by Executive and a duly authorized officer of the Company. Executive's rights to any compensation following a termination shall be only as set forth in Section 6.

1.2 Position. Subject to the terms set forth herein, the Company agrees to continue to employ Executive now in the position of Chief Financial Officer, and Executive hereby accepts such continued employment. During the term of Executive's employment with the Company, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention to the business of the Company.

1.3 Duties. Executive will report to the President and Chief Executive Officer performing such duties as are normally associated with Executive's then-current position and such duties as are assigned to Executive from time to time, subject to the oversight and direction of the President and Chief Executive Officer. In general, and without limitation, Executive will: serve as a senior leader in the organization and be responsible for all accounting, finance and business operations. Executive shall perform Executive's duties under this Agreement principally out of the Company's office in the Boston, Massachusetts area or such other location as assigned. In addition, Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company.

1.4 Company Policies and Benefits. The employment relationship between the parties shall also continue to be subject to the Company's personnel policies and procedures as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive will be eligible to participate on the same basis as similarly situated employees in the Company's benefit plans in effect from time to time during Executive's employment. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2. COMPENSATION.

2.1 Salary. Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of $410,000 subject to review and adjustment from time to time by the Company in its sole discretion ("*Base*

Salary"). The Base Salary is payable subject to standard federal and state payroll withholding requirements in accordance with the Company's standard payroll practices.

2.2 Annual Bonus. Executive shall be eligible to receive an annual performance bonus of up to 40% (the ***"Target Percentage")*** of Executive's then-current Base Salary (***"Annual Bonus"***). The Annual Bonus will be based upon the Company's assessment of Executive's performance, the Company's attainment of targeted goals as set by the Company's Board of Directors (the ***"Board")*** in its sole discretion, overall economic conditions and forecasts, and related financial factors, all as determined by the Company in its sole discretion. The Annual Bonus, if any, will be subject to applicable payroll deductions and withholdings. Following the close of each calendar year, the Company will determine whether Executive has earned the Annual Bonus, and the amount of any Annual Bonus (which can be less than the Target Percentage), based on the set criteria. No amount of the Annual Bonus is guaranteed, and Executive must be an employee in good standing on the Annual Bonus payment date to be eligible to receive an Annual Bonus; no partial or prorated bonuses will be provided. Executive's eligibility for an Annual Bonus is subject to change in the discretion of the Board (or any authorized committee thereof).

2.3 Future Equity Awards. Executive remains eligible to be considered for future equity awards as may be determined by the Board or a committee of the Board in its discretion in accordance with the terms of any applicable equity plan or arrangement that may be in effect from time to time.

2.4 Expense Reimbursement. The Company will reimburse Executive for all reasonable, documented business expenses incurred in connection with Executive's services hereunder, in accordance with the Company's business expense reimbursement policies and procedures as may be in effect from time to time. For the avoidance of doubt, to the extent that any reimbursements payable to Executive are subject to the provisions of Section 409A (as defined below): (i) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (ii) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (iii) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

3. CONFIDENTIAL INFORMATION. INVENTION ASSIGNMENT. NON-SOLICITATION. AND NON-COMPETITION OBLIGATIONS. As a condition of employment and in consideration of the benefits that Executive is eligible to receive under this Agreement, including, but not limited to, the additional compensation offered and provided to Executive hereunder, and as an express condition of the offer and provision of such additional compensation to Executive, Executive agrees to execute and abide by the Company's Confidential Information, Invention Assignment, Non-Solicitation and Non-Competition Agreement (the "Covenants Agreement") attached hereto as **Exhibit A.** The Covenants Agreements amends, restates, and supersedes in their entirety the Confidentiality, Non-Competition, Non-Solicitation and Intellectual Property Agreement between Executive and the Company dated July 7, 2020.

4. OUTSIDE ACTIVITIES. Except with the prior written consent of the Board, Executive will not, while employed by the Company, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder except for (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve; (ii) reasonable time devoted to activities in the non-profit and business communities consistent with Executive's duties; (iii) Executive's participation in professional and academic activities· and (iv) such other activities as may be specifically approved by the Board. This restriction shall not, however, preclude Executive from managing personal investments or owning less than one percent (1%) of the total outstanding shares of a publicly-traded company.

5. NO CONFLICT WITH EXISTING OBLIGATIONS. Executive represents that Executive's continued performance of all the terms of this Agreement and as an employee of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

6. TERMINATION OF EMPLOYMENT· The parties acknowledge that Executive's employment relationship with the Company continues to be at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause. The provisions in this Section govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status.

6.1 Termination by the Company Without Cause or Resignation by Executive for Good Reason (not in Connection with a Change in Control).

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 6.1 at any time without "Cause" (as defined in Section 6.3(a) below) by giving notice as described in Section 6.7 of this Agreement. A termination pursuant to Section 6.5 or 6.6 below is not a termination without "Cause" for purposes of receiving the Non-CIC Severance Benefits described in (and as defined in) this Section 6.1 or the CIC Severance Benefits described in (and as defined in) Section 6.2.

(b) If the Company terminates Executive's employment at any time without Cause or Executive terminates Executive's employment with the Company for "Good Reason" (as defined in Section 6.1(g) below), in either case, at any time except during the Change in Control Measurement Period (both "Change in Control" and "Change in Control Measurement Period" as defined in Section 6.2 below), then Executive shall be entitled to receive the Accrued Obligations (defined in 6.1 (d) below). If such termination without Cause or for Good Reason not occurring during the Change in Control Measurement Period constitutes 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***"), and Executive complies with the obligations in Section 6.1 (c) below, Executive shall also be eligible to receive the following "***Non-CIC Severance Benefits:***"

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for nine (9) months, less all applicable withholdings and deductions, paid in equal installments beginning on the Company's first regularly scheduled payroll date following the Release Effective Date (as defined in Section 6.1(c) below), with the remaining installments occurring on the Company's regularly scheduled payroll dates thereafter; and

(ii) Provided Executive or Executive's covered dependents, as the case may be, timely elects continued coverage under COBRA, or state continuation coverage (as applicable), under the Company's group health plans following such termination, the Company will pay the portion of the COBRA, or state continuation coverage, premiums which is equal to the cost of the coverage that the Company was paying as of the date of termination, to continue Executive's (and Executive's covered dependents, as applicable) health insurance coverage in effect on the termination date until the earliest of: (1) nine (9) months following the termination date; (2) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (3) the date Executive ceases to be eligible for COBRA or state law continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (1)-(3), (the "***Non-CIC COBRA Payment Period***")). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA, or state continuation coverage, premiums on Executive's behalf would result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying such premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the Non-CIC COBRA Payment Period, a fully taxable cash payment equal to the COBRA or state continuation coverage premium for such month, subject to applicable tax withholding, for the remainder of the Non-CIC COBRA Payment Period. Nothing in this Agreement shall deprive Executive of Executive's rights under COBRA or ERISA for benefits under plans and policies arising under Executive's employment by the Company.

(c) Executive will be paid all of the Accrued Obligations on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Non-CIC Severance Benefits pursuant to Section 6.l(b) or the CIC Severance Benefits pursuant to Section 6.2(a) of this Agreement if: (i) by the sixtieth (60^{th}) day following the date of Executive's Separation from Service, Executive has signed and delivered to the Company a separation agreement containing an effective, general release of claims in favor of the Company and its affiliates and representatives, in the form presented by the Company (the "***Release***"), which will include a non-competition clause which cannot be revoked in whole or part by such date (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"); and (ii) if Executive holds any other positions with the Company or any Affiliate, including a position on the Board, Executive resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) Executive returns all Company property; (iv) Executive complies with all post-termination obligations under this Agreement and the Covenants Agreement; and (v) Executive complies with the terms of the Release, including without limitation any non-disparagement and confidentiality provisions contained in the Release.

(d) For purposes of this Agreement, *"**Accrued Obligations**"* are (i) Executive's accrued but unpaid salary and accrued but unused vacation days, each through the date of termination, (ii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iii) benefits owed to Executive under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

(e) The Non-CIC Severance Benefits provided to Executive pursuant to this Section 6.1 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan policy, program, or prior agreement with the Company. For avoidance of doubt, Executive shall not be eligible for both CLC Severance Benefits and Non-CIC Severance Benefits.

(f) Any damages caused by the termination of Executive's employment without Cause not in connection with a Change in Control would be difficult to ascertain; therefore, the Non-CIC Severance Benefits for which Executive is eligible pursuant to Section 6.l(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full compensation, and not a penalty.

(g) For purposes of this Agreement, *"**Good Reason**"* shall mean the occurrence of any of the following events without Executive's consent: (i) a material reduction in Executive's Base Salary of at least 10%, other than pursuant to a reduction proportionately affecting all of the Company's other senior level executive employees; (ii) a material reduction in Executive's duties, authority and responsibilities relative to Executive's duties authority, and responsibilities in effect immediately prior to such reduction; (iii) the relocation of Executive's principal place of employment, without Executives consent, in a manner that lengthens Executive's one-way commute distance by fifty (50) or more miles from Executive's then-current principal place of employment immediately prior to such relocation; or (iv) any material breach of this Agreement by the Company; *provided, however,* that any such termination by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of Executive's intent to terminate for Good Reason within thirty (30) days following the first occurrence of the condition(s) that Executive believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the *"**Cure Period**")*· (3) the Company has not, prior to receiving such notice from Executive already informed Executive that Executive's employment with the Company is being terminated; and (4) Executive voluntarily terminates Executive's employment within thirty (30) days following the end of the Cure Period.

6.2 <u>Termination by the Company without Cause or Resignation by Executive for Good Reason (in connection with a Change in Control)</u>.

(a) In the event that Executive's employment is terminated without Cause or Executive resigns for Good Reason within twelve (12) months following the effective date of a Change in Control *("Change in Control Measurement Period")* of the Company, then Executive shall be entitled to the Accrued Obligations and, subject to Executive's full compliance with Section 6.1 (c) above, including but not limited to the Release requirement and Executive's continued compliance with obligations to the Company under Executive's Covenants Agreement, then Executive will be eligible for the following *"**CIC Severance Benefits:**"*

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for twelve (12) months, less all applicable withholdings and deductions, paid in equal installments beginning on the Company's first regularly scheduled payroll date following the Release Effective Date, with the remaining installments occurring on the Company's regularly scheduled payroll dates thereafter;

(ii) Provided Executive or Executive's covered dependents, as the case may be, timely elects continued coverage under COBRA, or state continuation coverage (as applicable), under the Company's group health plans following such termination, the Company will pay the portion of the COBRA, or state continuation coverage, premiums which is equal to the cost of the coverage that the Company was paying as of the date of termination, to continue Executive's (and Executive's covered dependents, as applicable) health insurance coverage in effect on the termination date until the earliest of: (1) twelve (12) months following the termination date; (2) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (3) the date Executive ceases to be eligible for COBRA or state law continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (1)-(3), (the *"CIC **COBRA Payment Period**"))*. Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA, or state continuation

coverage, premiums on Executive's behalf would result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying such premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the CIC COBRA Payment Period, a fully taxable cash payment equal to the COBRA or state continuation coverage premium for such month, subject to applicable tax withholding, for the remainder of the CIC COBRA Payment Period. Nothing in this Agreement shall deprive Executive of Executive's rights under COBRA or ERISA for benefits under plans and policies arising under Executive's employment by the Company;

(iii) The Company will make a lump sum cash payment to Executive in an amount equal to one (1) times the Target Percentage for the year in which the termination occurs, subject to standard deductions and withholdings, which will be paid in a lump sum on the sixtieth (60th) day following Executive's date of Separation from Service; and

(iv) Effective as of Executive's termination date, the vesting and exercisability of all outstanding equity awards held by Executive immediately prior to the termination date (if any) shall be accelerated in full.

(b) For purposes of this Agreement, a *"**Change in Control**"* shall have the meaning set forth in Plan.

(c) The CIC Severance Benefits provided to Executive pursuant to this Section 6.2 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(d) Any damages caused by the termination of Executive's employment without Cause during the Change in Control Measurement Period would be difficult to ascertain; therefore, the CIC Severance Benefits for which Executive is eligible pursuant to Section 6.2(a) above in exchange for the Release are agreed to by the parties as liquidated damages, to serve as full compensation, and not a penalty.

6.3 Termination by the Company for Cause.

Subject to Section 6.3(b) below, the Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 6.7 of this Agreement.

(a) ***"Cause"*** for termination shall mean that the Company has determined in its sole discretion that Executive has engaged in any of the following: (i) a material breach of any covenant or condition under this Agreement or any other agreement between the parties; (ii) any act constituting dishonesty, fraud, immoral or disreputable conduct; (iii) any conduct which constitutes a felony under applicable law; (iv) material violation of any Company policy or any act of misconduct; (v) refusal to follow or implement a clear and reasonable directive of the Company; (vi) negligence or incompetence in the performance of Executive's duties after the expiration of ten (10) days without cure after written notice of such failure; or (vii) breach of fiduciary duty.

(b) In the event Executive's employment is terminated at any time for Cause, Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.4 Resignation by Executive (other than for Good Reason).

(a) Executive may resign for any reason from Executive's employment with the Company at any time by giving notice as described in Section 6.7.

(b) In the event Executive resigns from Executive's employment with the Company (other than for Good Reason), Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.5 Termination by Virtue of Death or Disability of Executive.

(a) In the event of Executive's death while employed pursuant to this Agreement, all obligations of the parties hereunder shall terminate immediately, and the Company shall, pursuant to the Company's standard payroll policies, provide to Executive's legal representatives Executive's Accrued Obligations, but neither Executive nor Executive's legal representatives will be eligible for the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit.

(b) Subject to applicable state and federal law, the Company shall at all times have the right, upon written notice to the Executive, to terminate this Agreement based on Executive's Disability (as defined below). Termination by the Company of Executive's employment based on *"**Disability**"* shall mean termination because Executive is unable due to a physical or mental condition to perform the essential functions of Executive's position with or without reasonable accommodation for six (6) months in the aggregate during any twelve (12) month period or based on the written certification by two licensed physicians of the likely continuation of such condition for such period. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.6 Termination Due to Discontinuance of Business. Anything in this Agreement to the contrary notwithstanding, in the event the Company's business is discontinued because rendered impracticable by substantial financial losses, lack of funding, legal decisions, administrative rulings, declaration of war, dissolution, national or local economic depression or crisis or any reasons beyond the control of the Company, then this Agreement shall terminate as of the day the Company determines to cease operation with the same force and effect as if such day of the month were originally set as the termination date hereof. In the event this Agreement is terminated pursuant to this Section 6.6, Executive will not receive the Non-CIC Severance Benefits, the CIC Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

6.7 Notice; Effective Date of Termination.

(a) Termination of Executive's employment (the *"**Separation Date**")* pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's termination, with or without Cause, unless pursuant to Section 6.3(b)(vi) in which case ten (10) days after notice if not cured, or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) immediately after the Company gives written notice to Executive of Executive's termination account of Executive' s Disability, unless the Company specifies a later Separation Date, in which case, termination shall be effective as of such later Separation Date, *provided* that Executive has not returned to the full-time performance of Executive's duties prior to such date;

(iv) except as addressed by Section 6.7(a)(v), forty-five (45) days (or such shorter period agreed to by the President and Chief Executive Officer and Executive in writing) after Executive gives written notice to the Company of Executive's resignation for any reason, *provided* that the Company may set a Separation Date at any time between the date of notice and the date of resignation, in which case Executive s resignation shall be effective as of such other date. Executive will receive compensation through any required notice period; or

(v) for a termination for Good Reason, immediately upon Executive's full satisfaction of the requirements of Section 6.l(g).

(b) In the event notice of a termination under subsection (a)(i) is given orally, at the other party's request, the party giving notice must provide written confirmation of such notice within five (5) business days of the request in compliance with the requirement of Section 7.1 below. In the event of a termination for Cause or a resignation for Good Reason, written confirmation shall specify the subsection(s) of the definition of Cause or the definition of Good Reason relied on to support the decision to terminate.

6.8 Cooperation With Company After Termination of Employment. Following termination of Executive's employment for any reason, Executive shall reasonably cooperate with the Company in all matters relating to the winding up of Executive's pending work including, but not limited to, any litigation in which the Company is involved, and the orderly transfer of any such pending work to such other employees as may be designated by the Company.

6.9 Effect of Termination. Executive agrees that should Executive's employment be terminated for any reason, Executive shall be deemed to have resigned from any and all positions with the Company and its subsidiaries.

6.10 Application of Section 409A.

(a) It is intended that all of the compensation payable under this Agreement, to the greatest extent possible, either complies with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the *"Code')* and the regulations and other guidance thereunder and any state law of similar effect (collectively, *"Section 409A')* or satisfies one or more of the exemptions from the application of Section 409A, and this Agreement will be construed in a manner consistent with such intention incorporating by reference all required definitions and payment terms.

(b) No severance payments will be made under this Agreement unless Executive's termination of employment constitutes a Separation from Service. For purposes of Section 409A (including, without limitation, for purposes of Treasury Regulations Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement (whether severance payments or otherwise) shall be treated as a right to receive a series of separate payments and, accordingly, each installment payment hereunder shall at all times be considered a separate and distinct payment.

(c) To the extent that any severance payments are deferred compensation under Section 409A, and are not otherwise exempt from the application of Section 409A, then, to the extent required to comply with Section 409A, if the period during which Executive may consider and sign the Release spans two calendar years, the severance payments will not begin until the second calendar year. If the Company determines that the severance benefits provided under this Agreement constitutes "deferred compensation" under Section 409A and if Executive is a "specified employee" of the Company, as such term is defined in Section 409A(a)(2)(B)(i) of the Code at the time of Executive's Separation from Service, then, solely to the extent necessary to avoid the incurrence of the adverse personal tax consequences under Section 409A, the timing of the severance will be delayed as follows: on the earlier to occur of (a) the date that is six months and one day after Executive's Separation from Service, and (b) the date of Executive's death, the Company will: (i) pay to Executive a lump sum amount equal to the sum of the severance benefits that Executive would otherwise have received if the commencement of the payment of the severance benefits had not been delayed pursuant to this Section 6.10(c); and (ii) commence paying the balance of the severance benefits in accordance with the applicable payment schedule set forth in Sections 6.1 and 6.2. No interest shall be due on any amounts deferred pursuant to this Section 6.10(c).

(d) To the extent required to avoid accelerated taxation and/or tax penalties under Section 409A, amounts reimbursable to Executive under this Agreement shall be paid to Executive on or before the last day of the year following the year in which the expense was incurred and the amount of expenses eligible for reimbursement (and in-kind benefits provided to Executive) during any one year may not effect amounts reimbursable or provided in any subsequent year.

(e) Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under this Agreement comply with Section 409A, and in no event shall the Company be liable for all or any portion of any taxes, penalties, interest, or other expenses that may be incurred by the Executive on account of non- compliance with Section 409A.

6.11 Excise Tax Adjustment.

(a) If any payment or benefit Executive will or may receive from the Company or otherwise (a *"**280G Payment**")* would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this Section, 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

Executive's 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 Executive. 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 this Section 6.11 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 Executive 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 Executive 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 6.11. The Company shall bear all expenses with respect to the determinations by such accounting or law firm required to be made hereunder. The Company shall use commercially reasonable efforts to cause the accounting or law firm engaged to make the determinations hereunder to provide its calculations, together with detailed supporting documentation, to Executive and the Company within fifteen (15) calendar days after the date on which Executive's right to a 280G Payment becomes reasonably likely to occur (if requested at that time by Executive or the Company) or such other time as requested by Executive or the Company.

(d) If Executive receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 6.1l(a) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, Executive agrees to promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 6.11 (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 6.11(a), Executive shall have no obligation to return any portion of the Payment pursuant to the preceding sentence.

7. GENERAL PROVISIONS.

7.1 Notices. Any notices required hereunder to be in writing shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail, telex or confirmed facsimile if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally-recognized overnight courier, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the Company at its primary office location and to Executive at Executive's address as listed on the Company payroll or Executive's Company-provided email address, or at such other address as the Company or Executive may designate by ten (10) days' advance written notice to the other.

7.2 Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provisions had never been contained herein.

7.3 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

7.4 Complete Agreement. This Agreement, and the Covenants Agreements, constitute the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements, including the Prior Agreement. This Agreement is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company. The parties have entered into or are entering into a separate Covenants Agreement in connection herewith and have or may enter into separate agreements related to equity awards. These separate agreements govern other aspects of the relationship between the parties, have or may have provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the parties without regard to this Agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

7.5 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same agreement.

7.6 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

7.7 Successors and Assigns. The Company shall assign this Agreement and its rights and obligations hereunder in whole, but not in part, to any Company or other entity with or into which the Company may hereafter merge or consolidate or to which the Company may transfer all or substantially all of its assets, if in any such case said Company or other entity shall by operation of law or expressly in writing assume all obligations of the Company hereunder as fully as if it had been originally made a party hereto, but may not otherwise assign this Agreement or its rights and obligations hereunder. Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to Executive's estate upon Executive's death.

7.8 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the Commonwealth of Massachusetts.

7.9 Resolution of Disputes.

(a) To ensure the timely and economical resolution of disputes that may arise in connection with Executive's employment with the Company, Executive and the Company agree that any and all disputes, claims, or causes of action arising from or relating to the enforcement, breach, performance, negotiation, execution, or interpretation of this Agreement or Executive's employment, or the termination of Executive's employment, including but not limited to all statutory claims, will be resolved pursuant to the Federal Arbitration Act, 9 U.S.C. § 1-16, and to the fullest extent permitted by law, by final, binding and confidential arbitration by a single arbitrator conducted in ***Boston, Massachusetts*** by Judicial Arbitration and Mediation Services Inc. *("**JAMS**")* under the then applicable JAMS rules (at the following web address: https://www.jamsadr.com/rules-employment-arbitration/); provided, however, this arbitration provision shall not apply to sexual harassment claims to the extent prohibited by applicable law. A hard copy of the rules will be provided to Executive upon request.

(b) By agreeing to this arbitration procedure, both Executive and the Company waive the right to resolve any such dispute through a trial by jury or judge or administrative proceeding. In addition, all claims, disputes, or causes of action under this Section, whether by Executive or the Company, must be brought in an individual capacity, and shall not be brought as a plaintiff (or claimant) or class member in any purported class or representative proceeding, nor joined or consolidated with the claims of any other person or entity. The arbitrator may not consolidate the claims of more than one person or entity, and may not preside over any form of representative or class proceeding. To the extent that the preceding sentences regarding class claims or proceedings are found to violate applicable law or are otherwise found unenforceable, any claim(s) alleged or brought on behalf of a class shall proceed in a court of law rather than by arbitration. The Company acknowledges that Executive will have the right to be represented by legal counsel at any arbitration proceeding.

(c) Questions of whether a claim is subject to arbitration under this Agreement shall be decided by the arbitrator. Likewise, procedural questions which grow out of the dispute and bear on the final disposition are also matters for the arbitrator. The arbitrator shall: (a) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; (b) issue a written arbitration decision, to include the arbitrator's essential findings and conclusions and a statement of the award; and (c) be authorized to award any or all remedies that Executive or the Company would be entitled to seek in a court of law. Executive and the Company shall equally share all JAMS' arbitration fees. Except as modified in the Covenants Agreements, each party is responsible for its own attorneys' fees.

(d) Claims with respect to a threatened or actual breach of the Covenants Agreement or with respect to the Company's contractual, common law or statutory rights regarding the protection of trade secrets and/or confidential and proprietary information, are expressly excluded from the requirements of this Section 7.9. Accordingly, nothing in this Section 7.9 is intended to prevent or shall prevent the Company from instituting legal action (including immediately seeking injunctive or other equitable relief) in a court of competent jurisdiction in connection with Executive's threatened or actual breach of the Covenants Agreement, or otherwise in connection with the Company's contractual, common law or statutory rights regarding the protection of its trade secrets and confidential and proprietary information.

(e) To the extent applicable law prohibits mandatory arbitration of sexual harassment claims, in the event Executive intends to bring multiple claims, including a sexual harassment claim, the sexual harassment claim may be publicly-filed with a court, while any other claims will remain subject to mandatory arbitration.

[SIGNATURES TO FOLLOW ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed this Employment Agreement on the day and year first written above.

SENSEI BIOTHERAPEUTICS, INC.

By: _____
Name: John Celebi
Title: President and CEO

Executive:

_____
Erin Colgan

Exhibit A

EMPLOYEE CONFIDENTIAL INFORMATION, INVENTIONS ASSIGNMENT, NON-SOLICITATION AND NON-COMPETITION AGREEMENT

Sensei Biotherapeutics, Inc.

EMPLOYEE CONFIDENTIAL INFORMATION, INVENTION ASSIGNMENT, NON-SOLICITATION AND NON-COMPETITION AGREEMENT

In consideration of my employment or continued employment by **SENSEI BIOTHERAPEUTICS, INC.**, its subsidiaries, parents, affiliates, successors and assigns (together "***Company***"*)*, the compensation paid to me now and during my employment with Company, and the additional compensation paid to me in a single lump sum within five (5) business days of the execution of this Agreement in the amount of [$1,000.00] in support of the non-competition covenants described herein, and the Company's agreement to provide me with access to its Confidential Information (as defined below), I hereby enter into this Employee Confidential Information and Invention Assignment Agreement (the "***Agreement***") and agree as follows:

1. Confidential Information Protections.

1.1 Recognition of Company's Rights; Nondisclosure. I understand and acknowledge that my employment by Company creates a relationship of confidence and trust with respect to Company's Confidential Information (as defined below) and that Company has a protectable interest therein. At all times during and after my employment, I will hold in confidence and will not disclose, use, lecture upon, or publish any of Company's Confidential Information, except as such disclosure, use or publication may be required in connection with my work for Company, or unless an officer of Company expressly authorizes such disclosure. I will obtain Company's written approval before publishing or submitting for publication any material (written, oral, or otherwise) that discloses and/or incorporates any Confidential Information. I hereby assign to Company any rights I may have or acquire in such Confidential Information and recognize that all Confidential Information will be the sole and exclusive property of Company and its assigns. I will take all reasonable precautions to prevent the inadvertent accidental disclosure of Confidential Information. Notwithstanding the foregoing, pursuant to 18 U.S.C. Section 1833(b), I will 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.

1.2 Confidential Information. The term "***Confidential Information***" means any and all confidential knowledge, data or information of Company. By way of illustration but not limitation, "***Confidential Information***" includes (a) trade secrets, inventions, mask works, ideas, processes, formulas, software in source or object code, data, programs, other works of authorship, know-how, improvements, discoveries, developments, designs and techniques and any other proprietary technology and all Intellectual Property Rights (as defined below) therein (collectively, "***Inventions***")*;* (b) information regarding research, development, new products, marketing and selling, business plans, budgets and unpublished financial statements, licenses, prices and costs, margins, discounts, credit terms, pricing and billing policies, quoting procedures, methods of obtaining business, forecasts, future plans and potential strategies, financial projections and business strategies, operational plans, financing and capital-raising plans, activities and agreements, internal services and operational manuals, methods of conducting Company business, suppliers and supplier information, and purchasing; (c) information regarding customers and potential customers of Company, including customer lists, names, representatives, their needs or desires with respect to the types of products or services offered by Company, proposals, bids, contracts and their contents and parties, the type and quantity of products and services provided or sought to be provided to customers and potential customers of Company and other non-public information relating to customers and potential customers; (d) information regarding any of Company's business partners and their services, including names, representatives, proposals, bids, contracts and their contents and parties, the type and quantity of products and services received by Company, and other non-public information relating to business partners; (e) information regarding personnel, employee lists, compensation, and employee skills; and (f) any other non-public information which a competitor of Company could use to the competitive disadvantage of Company. Notwithstanding the foregoing, it is understood that, at all such times, I am free to use information which was known to me prior to my employment with Company or which is generally known in the trade or industry through no breach of this Agreement or other act or omission by me. Notwithstanding the foregoing or anything to the contrary in this Agreement or any other agreement between the Company and me, nothing in this Agreement will limit my right to discuss my employment or report possible violations of law or

regulation with the Equal Employment Opportunity Commission, United States Department of Labor, the National Labor Relations Board, the Securities and Exchange Commission, or other federal government agency or similar state or local agency or to discuss the terms and conditions of my employment with others to the extent expressly permitted by Section 7 of the National Labor Relations Act or to the extent that such disclosure is protected under the applicable provisions of law or regulation, including but not limited to "whistleblower" statutes or other similar provisions that protect such disclosure.

1.3 Third Party Information. I understand, in addition, that Company has received and in the future will receive from third parties their confidential and/or proprietary knowledge, data or information **(*"Third Party Information"*)** subject to a duty on Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. During the term of my employment and thereafter, I will hold Third Party Information in confidence and will not disclose to anyone (other than Company personnel who need to know such information in connection with their work for Company) or use, except in connection with my work for Company, Third Party Information or unless expressly authorized by an officer of Company in writing.

1.4 Term of Nondisclosure Restrictions. I understand that Confidential Information and Third Party Information is never to be used or disclosed by me, as provided in this Section 1. If a temporal limitation on my obligation not to use or disclose such information is required under applicable law, and the Agreement or its restriction(s) cannot otherwise be enforced, I agree and Company agrees that the two year period after the date my employment ends will be the temporal limitation relevant to the contested restriction; ***provided, however***, that this sentence will not apply to trade secrets protected without temporal limitation under applicable law.

1.5 No Improper Use of Information of Prior Employers and Others. During my employment by Company, I will not improperly use or disclose confidential information or trade secrets, if any of any former employer or any other person to whom I have an obligation of confidentiality, and I will not bring onto the premises of Company any unpublished documents or any property belonging to any former employer or any other person to whom I have an obligation of confidentiality unless consented to in writing by that former employer or person.

2. Assignments of Inventions.

2.1 Definitions. As used in this Agreement, the term "***Intellectual Property Rights***" means all trade secrets Copyrights trademarks, mask work rights patents and other intellectual property rights recognized by the laws of any jurisdiction or country; the term "***Copyright***" means the exclusive legal right to reproduce, perform, display, distribute and make derivative works of a work of authorship (as a literary, musical, or artistic work) recognized by the laws of any jurisdiction or country; and the term "*Moral Rights*" means all paternity integrity, disclosure, withdrawal special and any other similar rights recognized by the laws of any jurisdiction or country.

2.2 Excluded Inventions and Other Inventions. Attached hereto as **Exhibit A** is a list describing all existing Inventions, if any, (a) that are owned by me or in which I have an interest and were made or acquired by me prior to my date of first employment by Company, (b) that may relate to Company's business or actual or demonstrably anticipated research or development and (c) that are not to be assigned to Company ("***Excluded Inventions***"). If no such list is attached, I represent and agree that it is because I have no Excluded Inventions. For purposes of this Agreement, "***Other Inventions***" means Inventions in which I have or may have an interest, as of the commencement of my employment or thereafter other than Company Inventions (as defined below) and Excluded inventions. I acknowledge and agree that if I use any Excluded Inventions or any Other Inventions in the scope of my employment, or if I include any Excluded Inventions or Other Inventions in any product or service of Company, or if my rights in any Excluded Inventions or Other Inventions may block or interfere with or may otherwise be required for, the exercise by Company of any rights assigned to Company under this Agreement, I will immediately so notify Company in writing. Unless Company and I agree otherwise in writing as to particular Excluded Inventions or Other Inventions, I hereby grant to Company, in such circumstances (whether or not I give Company notice as required above) a non-exclusive perpetual transferable, fully-paid and royalty-free, irrevocable and worldwide license, with rights to sublicense through multiple levels of sublicensees to reproduce, make derivative works of, distribute, publicly perform, and publicly display in any form or medium whether now known or later developed make have made, use, sell, import offer for sale, and exercise any and all present or future rights in, such Excluded Inventions and Other Inventions. To the extent that any third parties have rights in any such Other Inventions, I hereby represent and warrant that such third party or parties have validly and irrevocably granted to me the right to grant the license stated above.

2.3 Assignment of Company Inventions. Inventions assigned to Company or to a third party as directed by Company pursuant to Section 2.6 are referred to in this Agreement as "***Company Inventions***" Subject to Section 2.4 and except for Excluded Inventions set forth in **Exhibit A** and Other Inventions, I hereby assign to Company all my right, title, and interest in and to any and all Inventions (and all Intellectual Property Rights with respect thereto) made, conceived, reduced to practice, or learned by me, either alone or with others, during the period of my employment by Company. To the extent required by applicable Copyright laws, I agree to assign in the future (when any copyrightable Inventions are first fixed in a tangible medium of expression) my Copyright rights in and to such Inventions. Any assignment of Company Inventions (and all Intellectual Property Rights with respect thereto) hereunder includes an assignment of all Moral Rights. To the extent such Moral Rights cannot be assigned to Company and to the extent the following is allowed by the laws in any country where Moral Rights exist, I hereby unconditionally and irrevocably waive the enforcement of such Moral Rights, and all claims and causes of action of any kind against Company or related to Company's customers, with respect to such rights. I further acknowledge and agree that neither my successors- in-interest nor legal heirs retain any Moral Rights in any Company Inventions (and any Intellectual Property Rights with respect thereto).

2.4 Unassigned or Nonassignable Inventions. I recognize that this Agreement will not be deemed to require assignment of any Invention that I developed entirely on my own time without using the Company's equipment, supplies, facilities, trade secrets, or Confidential Information, except for those Inventions that either (i) relate to the Company's actual or anticipated business, research or development, or (ii) result from or are connected with work performed by me for the Company. In addition, this Agreement does not apply to any Invention which qualifies fully for protection from assignment to the Company under any specifically applicable state law, regulation, rule or public policy *("**Specific Inventions Law**").*

2.5 Obligation to Keep Company Informed. During the period of my employment, I will promptly and fully disclose to Company in writing all Inventions authored, conceived, or reduced to practice by me, either alone or jointly with others. At the time of each such disclosure, I will advise Company in writing of any Inventions that I believe fully qualify for protection under the provisions of the Specific Inventions Law; and I will at that time provide to Company in writing all evidence necessary to substantiate that belief. Company will keep in confidence and will not use for any purpose or disclose to third parties without my consent any confidential information disclosed in writing to Company pursuant to this Agreement relating to Inventions that qualify fully for protection under the Specific Inventions Law. I will preserve the confidentiality of any Invention that does not fully qualify for protection under the Specific Inventions Law.

2.6 Government or Third Party. I agree that, as directed by Company, I will assign to a third party, including without limitation the United States, all my right, title, and interest in and to any particular Company Invention.

2.7 Ownership of Work Product.

(a) I acknowledge that all original works of authorship which are made by me (solely or jointly with others) within the scope of my employment and which are protectable by Copyright are "works made for hire," pursuant to United States Copyright Act (17 U.S.C., Section 101).

(b) I agree that Company will exclusively own all work product that is made by me (solely or jointly with others) within the scope of my employment, and I hereby irrevocably and unconditionally assign to Company all right, title, and interest worldwide in and to such work product. I understand and agree that I have no right to publish on, submit for publishing, or use for any publication any work product protected by this Section, except as necessary to perform services for Company.

2.8 Enforcement of Intellectual Property Rights and Assistance. I will assist Company in every proper way to obtain, and from time to time enforce, United States and foreign Intellectual Property Rights and Moral Rights relating to Company Inventions in any and all countries. To that end I will execute, verify and deliver such documents and perform such other acts (including appearances as a witness) as Company may reasonably request for use in applying for, obtaining, perfecting, evidencing, sustaining and enforcing such Intellectual Property Rights and the assignment thereof. In addition, I will execute, verity and deliver assignments of such Intellectual Property Rights to Company or its designee, including the United States or any third party designated by Company. My obligation to assist Company with respect to Intellectual Property Rights relating to such Company Inventions in any and all countries will continue beyond the termination of my employment, but Company will compensate me at a reasonable rate after my termination for the time actually spent by me at Company's request on such assistance. In the event Company is unable for any reason, after reasonable effort, to secure my signature on any document needed in connection with the actions specified in this paragraph, I hereby irrevocably designate and appoint Company and its duly authorized officers and agents as my agent and attorney in fact, which appointment is coupled with an interest, to act for and on my behalf to execute, verify and file any such documents and to do all other lawfully permitted acts to further the purposes of the preceding paragraph with the same legal force and effect as if executed by me. I hereby waive and quitclaim to Company any and all claims, of any nature whatsoever, which I now or may hereafter have for infringement of any Intellectual Property Rights assigned under this Agreement to Company.

2.9 Incorporation of Software Code. I agree that I will not incorporate into any Company software or otherwise deliver to Company any software code licensed under the GNU General Public License or Lesser General Public License or any other license that, by its terms, requires or conditions the use or distribution of such code on the disclosure, licensing, or distribution of any source code owned or licensed by Company except in strict compliance with Company's policies regarding the use of such software.

3. Records. I agree to keep and maintain adequate and current records (in the form of notes, sketches, drawings and in any other form that is required by Company) of all Confidential Information developed by me and all Company Inventions made by me during the period of my employment at Company, which records will be available to and remain the sole property of Company at all times.

4. Duty of Loyalty During Employment. I agree that during the period of my employment by Company, I will not, without Company's express written consent, directly or indirectly engage in any employment or business activity which is directly or indirectly competitive with, or would otherwise conflict with, my employment by Company.

5. No Solicitation of Employees, Consultants, Contractors, or Customers or Potential Customers. Except as modified by Section 10.3 below, I agree that during the period of my employment and for the one year period after the date my employment ends for any reason, including but not limited to voluntary termination by me or involuntary termination by Company, I will not, as an officer, director, employee, consultant, owner, partner, or in any other capacity, either directly or through others, except on behalf of Company:

5.1 solicit, induce, encourage, or participate in soliciting, inducing or encouraging any person known to me to be an employee, consultant, or independent contractor of Company to terminate his or her relationship with Company, even if I did not initiate the discussion or seek out the contact;

5.2 solicit, induce, encourage, or participate in soliciting, inducing, or encouraging any person known to me to be an employee, consultant, or independent contractor of Company to terminate his or her relationship with Company to render services to me or any other person or entity that researches, develops, markets, sells, performs or provides or is preparing to develop, market, sell, perform or provide Conflicting Services (as defined below);

5.3 hire, employ, or engage in a business venture with as partners or owners or other joint capacity, or attempt to hire, employ, or engage in a business venture as partners or owners or other joint capacity, with any person then employed by Company or who has left the employment of Company within the preceding three months to research, develop, market, sell, perform or provide Conflicting Services;

5.4 solicit, induce or attempt to induce any Customer or Potential Customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to Company its relationship with Company;

5.5 solicit or assist in the solicitation of any Customer or Potential Customer to induce or attempt to induce such Customer or Potential Customer to purchase or contract for any Conflicting Services; or

5.6 perform, provide or attempt to perform or provide any Conflicting Services for a Customer or Potential Customer.

The parties agree that for purposes of this Agreement, a *"**Customer or Potential Customer**"* is any person or entity who or which, at any time during the one year period prior to my contact with such person or entity as described in Sections 5.4, 5.5 or 5.6 above if such contact occurs during my employment or, if such contact occurs following the termination of my employment, during the one year period prior to the date my employment with Company ends: (i) contracted for was billed for, or received from Company any product, service or process with which I worked directly or indirectly during my employment by Company or about which I acquired Confidential Information; or (ii) was in contact with me or in contact with any other employee, owner, or agent of Company, of which contact I was or should have been aware, concerning the sale or purchase of, or contract for, any product, service or process with which I worked directly or indirectly during my employment with Company or about which I acquired Confidential Information; or (iii) was solicited by Company in an effort in which I was involved or of which I was aware.

6. Non-Compete Provision.

6.1 Except as modified by Section 10.3 below, unless I am classified as nonexempt under the Fair Labor Standards Act, 29 U.S.C. 201-219, I agree that during the period of my employment and for the one year period after the termination of my employment relationship with the Company due to voluntary termination by me or involuntary termination by the Company for Cause (defined below), I will not, whether paid or not: (i) serve as a partner, principal, licensor, licensee, employee, consultant, officer, director, manager, agent, affiliate, representative, advisor, promoter, associate, investor, or otherwise for, (ii) directly or indirectly, own, purchase, organize or take preparatory steps for the organization of, or (iii) build, design, finance acquire, lease, operate, manage, control, invest in, work or consult for or otherwise join, participate in or affiliate myself with, any business whose business, products or operations are in any respect involved in Conflicting Services (defined below) anywhere in the Restricted Territory (defined below). Should I obtain other employment during my employment with the Company or within 12 months immediately following the termination of my relationship with the Company, I agree to provide written notification to the Company as to the name and address of my new employer, the position that I expect to hold, and a general description of my duties and responsibilities, at least three business days prior to starting such employment.

6.2 The parties further agree that for purposes of this Agreement, " ***Conflicting Services***" means any business in which the Company is engaged or in which the Company has plans to be engaged, or any service that the Company provides or has plans to provide.

6.3 I agree that for purposes of this Agreement, *"**Restricted Territory**"* means the geographic areas in which I provided services for the Company or had a material presence or influence during any time within the last two years prior to the termination of my relationship with the Company.

6.4 I agree that for purposes of this Agreement, *"**Cause**"* shall mean a termination of my employment by the Company due to my misconduct or failure to meet the Company's performance expectations.

6.5 The Company may elect to enforce the provisions of this Section 6 or waive them at its sole discretion. If the Company elects to enforce the provisions of this Section, such election may be accomplished by the Company providing me with written notice of its election to enforce: (A) on or before the last day of my employment with the Company pursuant to an involuntary termination by the Company for Cause, or (B) within 2 weeks after the Company's receipt of written notice from me of my resignation from employment. If the Company elects to enforce the provisions of this Section 6 then the Company must either: (i) accelerate the vesting of my Company stock options by 12 months *("**Mutually Agreed Upon Consideration**")*, or, in the event I do not have any Company stock options, (ii) pay me continuing salary payments for one year following termination of my employment at a rate equal to no less than 50% of the highest annualized base salary paid to me by the Company within the two years prior to the termination of my relationship with the Company *("**Garden Leave Payments**")*. Notwithstanding anything to the contrary above, the Company may enforce the covenants in this Section 6 without providing the Garden Leave Payments, if applicable, if it determines in good faith that I breached this Section 6 or unlawfully misappropriated the Company's physical or electronic property. For avoidance of doubt, the Company's failure to timely elect to enforce the provisions of this Section 6 shall be construed as its waiver of the provisions of this Section 6. For further avoidance of doubt, if the Company does not elect to enforce, I am classified as nonexempt under the Fair Labor Standards Act, 29 U.S.C. 201-219, or the Company is otherwise prohibited by law or a court from enforcing, the provisions of this Section 6, I will not be subject to the restrictions in this Section 6 nor will I be entitled to any Mutually Agreed Upon Consideration or Garden Leave Payments.

6.6 I acknowledge that I have received no compensation from the Company in exchange for my agreement to the restrictions in this Section 6.

7. Reasonableness of Restrictions.

7.1 I agree that I have read this entire Agreement and understand it. I acknowledge that I have the right to consult with counsel prior to signing this Agreement. I further acknowledge that I will derive significant value from the Company's agreement to provide me with Company Confidential Information to enable me to optimize the performance of my duties to the Company. I further acknowledge that my fulfillment of the obligations contained in this Agreement, including, but not limited to, my obligation neither to disclose nor to use Company Confidential Information other than for the Company's exclusive benefit and my obligations not to compete and not to solicit are necessary to protect Company Confidential Information and, consequently, to preserve the value and goodwill of the Company. I agree that this Agreement does not prevent me from earning a living or pursuing my career. I agree that the restrictions contained in this Agreement are reasonable, proper, and necessitated by Company's legitimate business interests. I represent and agree that I am entering into this Agreement freely and with knowledge of its contents with the intent to be bound by the Agreement and the restrictions contained in it.

7.2 In the event that a court finds this Agreement, or any of its restrictions, to be ambiguous, unenforceable, or invalid, I and Company agree that the court will read the Agreement as a whole and interpret the restriction(s) at issue to be enforceable and valid to the maximum extent allowed by law.

7.3 If the court declines to enforce this Agreement in the manner provided in subsection 7.2, Company and I agree that this Agreement will be automatically modified to provide Company with the maximum protection of its business interests allowed by law and I agree to be bound by this Agreement as modified.

8. No Conflicting Agreement or Obligation. I represent that my performance of all the terms of this Agreement and as an employee of Company does not and will not breach any agreement to keep in confidence information acquired by me in confidence or in trust prior to my employment by Company. I have not entered into, and I agree I will not enter into, any agreement either written or oral in conflict with this Agreement.

9. Return of Company Property. When I leave the employ of Company, I will deliver to Company any and all drawings, notes, memoranda, specifications, devices, formulas and documents, together with all copies thereof, and any other material containing or disclosing any Company Inventions, Third Party Information or Confidential Information of Company. I agree that I will not copy, delete, or alter any information contained upon my Company computer or Company equipment before I return it to Company. In addition, if I have used any personal computer, server, or e-mail system to receive, store, review, prepare or transmit any Company information, including but not limited to, Confidential Information, I agree to provide Company with a computer-useable copy of all such Confidential Information and then permanently delete and expunge such Confidential Information from those systems; and I agree to provide Company access to my system as reasonably requested to verify that the necessary copying and/or deletion is completed. I further agree that any property situated on Company's premises and owned by Company, including disks and other storage media, filing cabinets or other work areas, is subject to inspection by Company's personnel at any time with or without notice. Prior to leaving, I will cooperate with Company in attending an exit interview and completing and signing Company's termination statement if required to do so by Company.

10. Legal and Equitable Remedies.

10.1 I agree that it may be impossible to assess the damages caused by my violation of this Agreement or any of its terms. I agree that any threatened or actual violation of this Agreement or any of its terms will constitute immediate and irreparable injury to Company, and Company will have the right to enforce this Agreement and any of its provisions by injunction, specific performance or other equitable relief, without bond and without prejudice to any other rights and remedies that Company may have for a breach or threatened breach of this Agreement.

10.2 I agree that if Company is successful in whole or in part in any legal or equitable action against me under this Agreement, Company will be entitled to payment of all costs, including reasonable attorney's fees, from me.

10.3 In the event Company determines that I have breached a fiduciary duty owed to it or misappropriated the Company's physical or electronic property, I agree that the restrictions of Sections 5 and 6 will remain in effect for a period of 24 months after the termination of my relationship with the Company.

11. Notices. Any notices required or permitted under this Agreement will be given to Company at its headquarters location at the time notice is given, labeled “Attention Chief Executive Officer,” and to me at my address as listed on Company payroll, or at such other address as Company or I may designate by written notice to the other. Notice will be effective upon receipt or refusal of delivery. If delivered by certified or registered mail, notice will be considered to have been given five business days after it was mailed, as evidenced by the postmark. If delivered by courier or express mail service, notice will be considered to have been given on the delivery date reflected by the courier or express mail service receipt.

12. Publication of This Agreement to Subsequent Employer or Business Associates of Employee.

12.1 If l am offered employment or the opportunity to enter into any business venture as owner, partner, consultant or other capacity while the restrictions described in Sections 5 and 6 of this Agreement are in effect I agree to inform my potential employer, partner, co- owner and/or others involved in managing the business with which I have an opportunity to be associated of my obligations under this Agreement and also agree to provide such person or persons with a copy of this Agreement.

12.2 I agree to inform Company of all employment and business ventures which I enter into while the restrictions described in Sections 5 and 6 of this Agreement are in effect and I also authorize Company to provide copies of this Agreement to my employer, partner, co-owner and/or others involved in managing the business with which I am employed or associated and to make such persons aware of my obligations under this Agreement.

13. General Provisions.

13.1 Governing Law; Consent to Personal Jurisdiction. This Agreement will be governed by and construed according to the laws of the Commonwealth of Massachusetts as such laws are applied to agreements entered into and to be performed entirely within Massachusetts between residents of Massachusetts. I hereby expressly consent to the personal jurisdiction and venue of the state and federal courts located in Massachusetts for any lawsuit filed there against me by Company arising from or related to this Agreement, and the parties' expressly agree to venue in Massachusetts Superior Court, Suffolk County, Business Litigation Session with respect to any disputes hereunder.

13.2 Severability. In case any one or more of the provisions, subsections, or sentences contained in this Agreement will, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect the other provisions of this Agreement, and this Agreement will be construed as if such invalid, illegal or unenforceable provision had never been contained in this Agreement. If moreover, any one or more of the provisions contained in this Agreement will for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it will be construed by limiting and reducing it, so as to be enforceable to the extent compatible with the applicable law as it will then appear.

13.3 Successors and Assigns. This Agreement is for my benefit and the benefit of Company, its successors, assigns, parent corporations, subsidiaries, affiliates, and purchasers, and will be binding upon my heirs, executors, administrators and other legal representatives.

13.4 Survival. This Agreement will survive the termination of my employment, regardless of the reason, and the assignment of this Agreement by Company to any successor in interest or other assignee.

13.5 Employment At-Will. I agree and understand that nothing in this Agreement will change my at-will employment status or confer any right with respect to continuation of employment by Company, nor will it interfere in any way with my right or Company's right to terminate my employment at any time, with or without cause or advance notice.

13.6 Waiver. No waiver by Company of any breach of this Agreement will be a waiver of any preceding or succeeding breach. No waiver by Company of any right under this Agreement will be construed as a waiver of any other right. Company will not be required to give notice to enforce strict adherence to all terms of this Agreement.

13.7 Export. I agree not to export, re export, or transfer, directly or indirectly any U.S. technical data acquired from Company or any products utilizing such data in violation of the United States export laws or regulations.

13.8 Counterparts. 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.

13.9 Advice of Counsel. I ACKNOWLEDGE THAT, IN EXECUTING THIS AGREEMENT, I HAVE HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND I HAVE READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

13.10 Entire Agreement. The obligations pursuant to Sections I and 2 (except Subsection 2.4 and Subsection 2.7(a)) of this Agreement will apply to any time during which I was previously engaged, or am in the future engaged, by Company as a consultant if no other agreement governs nondisclosure and assignment of inventions during such period. This Agreement is the final, complete and exclusive agreement of the parties with respect to the subject matter of this Agreement and supersedes and merges all prior discussions between us; provided, however, prior to the execution of this Agreement, if Company and I were parties to any agreement regarding the subject matter hereof, that agreement will be superseded by this Agreement prospectively only. No modification of or amendment to this Agreement will be effective

unless in writing and signed by the party to be charged. Any subsequent change or changes in my duties, salary or compensation will not affect the validity or scope of this Agreement.

[signatures to follow on next page]

This Agreement has been provided to me ten (10) days prior to the effective date of the Agreement.
This Agreement will therefore be effective as of March 7, 2022.

EMPLOYEE:

I have read this agreement carefully and understand its terms. I have completely filled out Exhibit A to this Agreement.

(Signature)

Erin Colgan E Colgan
Name

3/7/2022
Date

ecolgan esanscibio.com
Email

COMPANY:
Accepted and agreed
SENSEI BIOTHERAPEUTICS, INC.

By: _____
Name: John Celebi
Title: President and CEO
Email: jcelebi@senseibio.com

EXHIBIT A

EXCLUDED INVENTIONS

TO: Sensei Biotherapeutics, Inc.

FROM: Erin Colgan

DATE: 3/7/2022

1. Excluded Inventions Disclosure. Except as listed in Section 2 below, the following is a complete list of all Excluded Inventions:

☐ No Excluded Inventions.

☐ See below:

_____

_____

_____

_____

_____

☐ Additional sheets attached.

2. Due to a prior confidentiality agreement, I cannot complete the disclosure under Section 1 above with respect to the Excluded Inventions generally listed below, the intellectual property rights and duty of confidentiality with respect to which I owe to the following party(ies):

	Excluded Invention	**Party(ies)**	**Relationship**
1.			
2.			
3.			

☐ Additional sheets attached.

Sensei Biotherapeutics, Inc. Corporate Company Structure

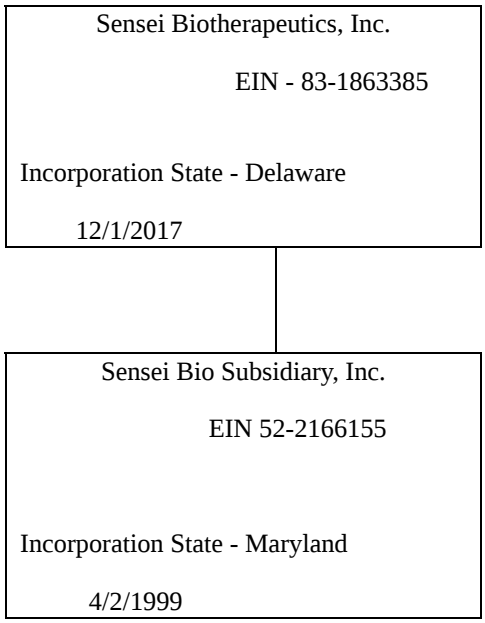


Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-252954 on Form S-8 of our report dated March 15, 2022, relating to the financial statements of Sensei Biotherapeutics, Inc. appearing in this Annual Report on Form 10-K for the year ended December 31, 2021.

/s/ Deloitte & Touche LLP

Baltimore, Maryland

March 15, 2022

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John Celebi, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2021 of Sensei Biotherapeutics, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13A-15(f) and 15D-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 15, 2022

By: /s/ John Celebi
John Celebi
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Erin Colgan, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2021 of Sensei Biotherapeutics, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13A-15(f) and 15D-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 15, 2022

By: /s/ Erin Colgan
Erin Colgan
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATIONS OF
PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), John Celebi, President and Chief Executive Officer of Sensei Biotherapeutics, Inc. (the "Company"), and Erin Colgan, Senior Vice President of Finance and Administration of the Company, each hereby certifies that, to the best of his or her knowledge:

(1) The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021, to which this Certification is attached as Exhibit 32.1 (the "Annual Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

(2) The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned have set their hands hereto as of the 15th day of March, 2022.

/s/ John Celebi
John Celebi
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Erin Colgan
Erin Colgan
Chief Financial Officer
(Principal Financial Officer)

* This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.