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

FORM 10-K

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

For the fiscal year ended: December 31, 2018

☐ **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 001-36150

SORRENTO THERAPEUTICS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**33-0344842**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
4955 Directors Place **San Diego, California**	**92121**
(Address of Principal Executive Offices)	(Zip Code)

(858) 203-4100
(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Name of exchange on which registered**
Common Stock, par value $0.0001 per share	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 Section 15(d) of the Exchange 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 (Section 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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 is a shell company (as defined in Rule 12b-2 of the Act). ☐ Yes ☒ No

The aggregate market value of voting stock held by non-affiliates of the registrant is calculated based upon the closing sale price of the common stock on June 30, 2018 (the last trading day of the registrant's second fiscal quarter of 2018), as reported on the Nasdaq Capital Market, was approximately $836.9 million.

At February 21, 2019, the registrant had 122,280,092 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of our Proxy Statement for the 2019 Annual Meeting of Stockholders or an amendment to this Annual Report on Form 10-K, to be filed within 120 days of December 31, 2018, are incorporated by reference in Part III.

SORRENTO THERAPEUTICS, INC.

ANNUAL REPORT ON FORM 10-K
FISCAL YEAR ENDED DECEMBER 31, 2018

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, or Form 10-K, contains "forward-looking statements" that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially and adversely from those expressed or implied by such forward-looking statements. The forward-looking statements are contained principally in Item 1—"Business," Item 1.A—"Risk Factors" and Item 7—"Management's Discussion and Analysis of Financial Condition and Results of Operations" but appear throughout the Form 10-K. Examples of forward-looking statements include, but are not limited to our expectations, beliefs or intentions regarding our potential product offerings, business, financial condition, results of operations, strategies or prospects and other matters that do not relate strictly to historical facts or statements of assumptions underlying any of the foregoing. These statements are often identified by the use of words such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "ongoing," "opportunity," "plan," "potential," "predicts," "seek," "should," "will," or "would," and similar expressions and variations or negatives of these words. These forward-looking statements are based on the expectations, estimates, projections, beliefs and assumptions of our management based on information currently available to management, all of which are subject to change. Such forward-looking statements are subject to risks, uncertainties and other factors that are difficult to predict and could cause our actual results and the timing of certain events to differ materially and adversely from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed under Item 1.A—"Risk Factors" in this Form 10-K. Furthermore, such forward-looking statements speak only as of the date of this Form 10-K. We undertake no obligation to update or revise publicly any forward-looking statements to reflect events or circumstances after the date of such statements for any reason, except as otherwise required by law.

PART I

Item 1. Business.

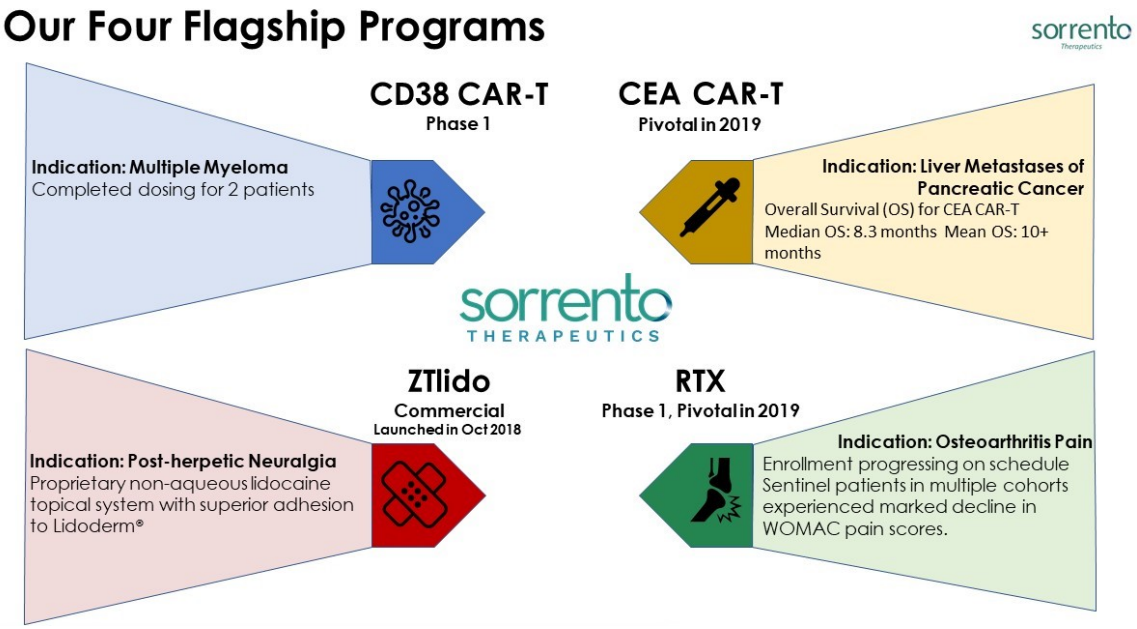
Overview

Sorrento Therapeutics, Inc. (Nasdaq: SRNE), together with its subsidiaries (collectively, the "Company", "we", "us" and "our") is a clinical stage and commercial biopharma company focused on delivering innovative and clinically meaningful therapies to patients and their families, globally, to address unmet medical needs. We primarily focus on therapeutics areas in Immune-Oncology and Non-Opioid Pain Management. We also have programs assessing the use of our technologies and products in autoimmune, inflammatory and neurodegenerative diseases.

At our core, we are an antibody-centric company and leverage our proprietary G-MAB™ library and targeted delivery modalities to generate the next generation of cancer therapeutics. Our fully human antibodies include PD-1, PD-L1, CD38, CD123, CD47, c-MET, VEGFR2, CCR2 and CD137 among others.

Our vision is to leverage these antibodies in conjunction with proprietary targeted delivery modalities to generate the next generation of cancer therapeutics. These modalities include proprietary chimeric antigen receptor T-cell therapy ("CAR-T"), dimeric antigen receptor T-cell therapy ("DAR-T"), antibody drug conjugates ("ADCs") as well as bispecific antibody approaches. Additionally, we acquired Sofusa®, a revolutionary drug delivery system, in July 2018, which delivers biologics directly into the lymphatic system to potentially achieve improved efficacy and fewer adverse effects than standard parenteral immunotherapy.

With each of our clinical and pre-clinical programs, we aim to tailor our therapies to treat specific stages in the evolution of cancer, from elimination, to equilibrium and escape. In addition, our objective is to focus on tumors that are resistant to current treatments and where we can design focused trials based on a genetic signature or biomarker to ensure patients have the best chance of a durable and significant response. We have several immuno-oncology programs that are in or near to entering the clinic. These include cellular therapies, an oncolytic virus and a palliative care program targeted to treat intractable



cancer pain. Our cellular therapy programs focus on CAR-T for adoptive cellular immunotherapy to treat both solid and liquid tumors. We have reported early data from Phase I trials of our carcinoembryonic antigen (“CEA”)-directed CAR-T program. We have treated five patients with stage 4, unresectable adenocarcinoma (four with pancreatic and one with colorectal cancer) and CEA-positive liver metastases with anti-CEA CAR-T and are currently expanding this study. We successfully submitted an Investigational New Drug application ("IND") for anti-CD38 CAR-T for the treatment of refractory or relapsed multiple myeloma ("RRMM") and obtained approval from the U.S. Food and Drug Administration (the "FDA") to commence a human clinical trial for this indication in early 2018. We have dosed two patients and are continuing the enrollment of additional patients.

Broadly speaking, we are one of the world’s leading CAR-T companies today due to our investments in technology and infrastructure, which have enabled significant progress in developing our next-generation non-viral, “off-the-shelf” allogeneic CAR-T solutions. With “off-the-shelf” solutions, CAR-T therapy can truly become a drug product rather than a treatment procedure. One of the approaches we have taken to develop the “off-the-shelf” allogeneic CAR-T solutions is through Celularity, our joint venture with Celgene, United Therapeutics and others. Celularity focuses on developing cell therapies with placenta-derived and cord blood T cells, which have natural allogeneic “off-the-shelf” characteristics. We are the single largest shareholder of Celularity with a stake of approximately 25%.

Outside of immune-oncology programs, as part of our global aim to provide a wide range of therapeutic products to meet underserved markets, we have made investments in non-opioid pain management. These include resiniferatoxin (“RTX”), which is a non-opioid-based neurotoxin that specifically ablates nerves that conduct pain signals while leaving other nerve functions intact and is being studied for chronic pain treatment. RTX has been granted orphan drug status for the treatment of intractable pain with end-stage cancer and a Phase I trial with the National Institutes of Health (“NIH”) is concluding. A Phase Ib trial studying tolerance and efficacy of RTX for the control of osteoarthritis knee pain was initiated in late 2018 and preliminary results have shown strong efficacy with no significant adverse effects. Other applications of RTX are expected to start Phase Ib trials in 2019.

Also in the area of non-opioid pain management, we have acquired proprietary technologies to responsibly develop next generation, branded pharmaceutical products to better manage patients’ medical conditions and maximize the quality of life of patients and healthcare providers. The flagship product of our majority-owned subsidiary, Scilex Pharmaceuticals Inc. (“Scilex”), ZTlido® (lidocaine topical system 1.8%), is a next-generation lidocaine delivery system which was approved by the FDA for the treatment of postherpetic neuralgia, a severe neuropathic pain condition, in February 2018, and was commercially launched in late October 2018. Scilex now has built a full commercial organization, which includes sales, marketing, market access, and medical affairs. ZTlido® is positioned as a best-in-class product with superior adhesion compared to Lidoderm and is manufactured by our Japanese partner in their state-of-the-art manufacturing facility.

Our Strategy

Our primary goal is to deliver clinically meaningful therapies to patients and their families, globally. In immuno-oncology, we aim to deliver next generation therapeutics to transform cancer into a treatable or chronically manageable disease. Across all our programs, we are focused on addressing severe unmet medical needs where our therapies can change the natural course of disease or significantly improve a patient's quality of life.

Our core strategic objectives and resources are focused on:

1. Rapidly advancing our lead product candidates through the clinic. These include the initiation of Phase I, Phase II and potentially accelerated approval trials for our cellular therapies and oncolytic virus immunotherapy in oncology and/or hematology indications. Our clinical-state RTX program will be developed in several pain indications with high-unmet medical needs.

2. Continuing the development of our preclinical programs with the aim of filing several new INDs over the next 12-18 months. These include moving our checkpoint inhibitors from our core antibody portfolio into the clinic either ourselves or with our strategic partners. Also, we will utilize our fully human antibody portfolio for the development of ADCs and bispecific antibodies ("BsAbs"). In addition, we plan to start several clinical trials with the Sofusa® device to explore safety and efficacy features of this innovative drug delivery system.

3. Collaborating with key opinion leaders and leading clinical and research institutes to enhance our preclinical and clinical development plans. We currently have such agreements in place with the Karolinska Institute, The Scripps Research Institute ("TSRI"), the NIH, City of Hope, Tufts Medical School, and Roger Williams Medical Center, among others.

4. Manufacturing our preclinical and clinical materials in-house. We have established quality control and quality assurance programs, which include standard operating procedures and specifications designed to ensure that our products are manufactured in accordance with current good manufacturing practices ("cGMPs"), and other applicable domestic and foreign regulations.

5. Exploring strategic partnerships to share in the risk reward of our core franchises and to derive near term value from our non-core programs. Our partnering objectives include generating revenue through license fees, milestone-related development fees and royalties as well as profit shares or joint ventures to generate potential returns from our product candidates and technologies.

Segment Information

We have determined that we operate in one operating segment. See Note 3 in the Notes to Consolidated Financial Statements in this Form 10-K.

Clinical Programs

CD38 Directed CAR-T Program

Our proprietary, second generation anti-CD38 CAR-T therapy is being developed for the treatment of multiple myeloma and for additional potential indications, including amyloidosis and graft-versus-host disease. Our anti-CD38 CAR-T is based on a fully human anti-CD38 mAb derived from our G-MAB™ antibody library.

The membrane glycoprotein CD38 is widely found on the surface of lymphoid and myeloid lineages including B, T and NK cells, but absent from most mature resting lymphocytes with the notable exception of terminally differentiated plasma cells. Because CD38 is highly expressed on multiple myeloma cells, it represents a valuable and validated therapeutic target against myeloma. Multiple myeloma is a hematologic malignancy in which clonal plasma cells accumulate in the bone marrow or extramedullary sites and give rise to clinical complications such as painful, lytic bone lesions, hypercalcemia, renal impairment, cytopenias, and symptomatic plasmacytomas.

The American Cancer Society estimated 30,280 new cases and 12,590 deaths from multiple myeloma in the U.S. during 2017. The anti-CD38 monoclonal antibody DARZALEX® (daratumumab), marketed by Janssen Oncology, was granted accelerated approval by the FDA for the treatment of multiple myeloma on November 16, 2015. Worldwide net sales of DARZALEX® were $572 million in 2016 and $1.2 billion in 2017. We are encouraged by the validation of this important target in the market for multiple myeloma therapeutics and its rapid adoption by clinicians in the myeloma community. We believe our CD38 cellular therapy will provide an additional significant advance in the CD38 blockade for multiple myeloma patients that are resistant or have failed current therapies.

In a xenograft mouse model of human myeloma, we demonstrated that CD38-expressing multiple myeloma tumor cells were efficiently killed and tumors were completely eradicated by our anti-CD38 CAR-T. Importantly, these anti-CD38 CAR-T cells selectively killed multiple myeloma target cells expressing high levels of CD38 while avoiding the killing of cells with normal or low levels of CD38. We believe this unique characteristic may result in a more tolerable safety profile in humans and enable a more effective manufacturing process of our anti-CD38 CAR-T cells since we do not anticipate requiring a genetic CD38 knock-out or knock-down in our construct. We have successfully submitted an IND for anti-CD38 CAR-T for the treatment of RRMM and have obtained approval from the FDA to commence a human clinical trial for this indication. We began an anti-CD38 CAR-T clinical trial with RRMM patients in 2018 and recruitment continues in the dose-escalation phase of the study. There has been evidence of CAR-T cell activation and early signs of efficacy at low doses of the anti-CD38 CAR-T cells.

CEA Directed CAR-T Program

A second-generation anti-CEA CAR-T cell therapy is being developed for the regional treatment of liver metastases due to CEA-expressing pancreatic adenocarcinoma via pressure-enabled hepatic arterial infusion of CAR-T.

CEA is highly expressed in the majority of primary and metastatic cancers of gastrointestinal origin, including adenocarcinoma of the pancreas. In addition, liver metastases often express CEA at higher levels than the primary pancreatic tumor. However, CEA is also expressed on normal cells of the colonic epithelium and elsewhere in the gastrointestinal tract. Therefore, systemic intravenous infusions of anti-CEA CAR-T cells have been associated with colitis and symptoms of severe diarrhea. Regional infusions of anti-CEA CAR-T cells directly into the liver through the hepatic artery with a pressure-enabled device increases the delivery of the CAR-T cells directly to the metastatic tumors in the liver and reduces the risk of severe on-target/off-tumor effects, cytokine release syndrome, and neurotoxicity adverse events associated with intravenous infusions.

Pancreatic cancer is associated with a poor prognosis and is a high-unmet medical need. Most pancreatic cancer patients are asymptomatic until advanced disease develops. Up to 80% of patients with pancreatic cancer present with metastatic disease. The survival rates for pancreatic cancer patients at 1 and 5 years are only 29% and 7%, respectively. Liver metastases occur frequently and are a common cause of mortality and morbidity. Our early-phase clinical trial of anti-CEA CAR-T delivered to patients with pancreatic carcinoma and liver metastases via pressure-enabled hepatic artery infusion has demonstrated complete metabolic and radiologic responses within the liver in two of four patients by PET scans and CT scans, respectively. Based on these promising results, we are planning a randomized trial with FDA advice this year to study overall survival in patients with CEA-expressing pancreatic adenocarcinoma with liver metastases treated with regionally administered anti-CEA CAR-T cells.

Resiniferatoxin (RTX) Programs

RTX is a naturally occurring compound obtained from cactus-like succulents of the Euphorbia species. An ultra-potent TRPV1 agonist, RTX belongs to the same family as capsaicin, the active ingredient in red chili peppers. As an agonist, RTX produces a sustained opening of calcium channels located in the end-terminal or cell body of C-fiber nerves (depending upon the route of administration). This, in turn, generates a rapid and massive cation influx into the nerve and sustained depolarization results in cytotoxicity and ablation of TRPV1-positive cells that conduct pain signals, while leaving non-TPVR1 containing nerves (touch, motor control, joint position) intact. RTX is differentiated from other agonists, including capsaicin, in that it is significantly more potent at desensitizing than it is in inducing excitation of the neuron. In fact, it has been proposed that because RTX is several thousand times more potent than capsaicin at desensitization, the higher potency of RTX may lead to a briefer noxious (e.g., painful) period immediately after exposure.

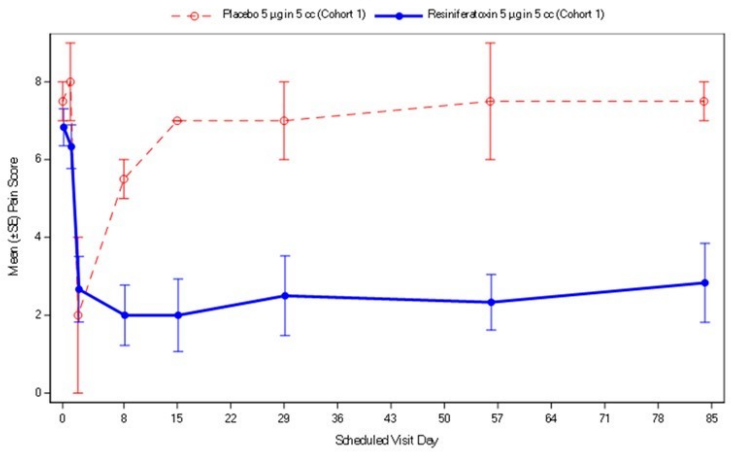
RTX was tested in an investigator-sponsored Phase I clinical trial at the NIH under a Cooperative Research and Development Agreement (CRADA). To date, 13 patients with terminal cancer pain have been treated intrathecally at the NIH. A second sponsor-led trial for the control of intractable cancer pain is assessing the tolerance and efficacy of RTX administered epidurally. This dose-escalation trial is progressing and 4 patients have been enrolled thus far.

More recent studies in animals (translational work from our animal health subsidiary) have unveiled the clinical potential of RTX intra-articular injections for the control of pain associated with moderate to severe arthritis. Safety studies have been completed and a Phase I clinical trial in humans started in the second half of 2018. Significant activity in relieving pain associated with severe osteoarthritis of the knee was observed and RTX has been well tolerated at the doses administered. Two independent phase III pivotal trials are planned to start in the second half of 2019 and they could be completed in 12 to 18 months - advancing the program closer to a regulatory filing by 2021.

RTX is being manufactured under cGMP and we have sufficient drug product to complete the clinical development programs across multiple additional indications. We have also secured enough raw materials for the drug production to cover the commercial needs for several years and additional contracts are in progress to ensure long-term commercial supplies.

sorrento Therapeutics

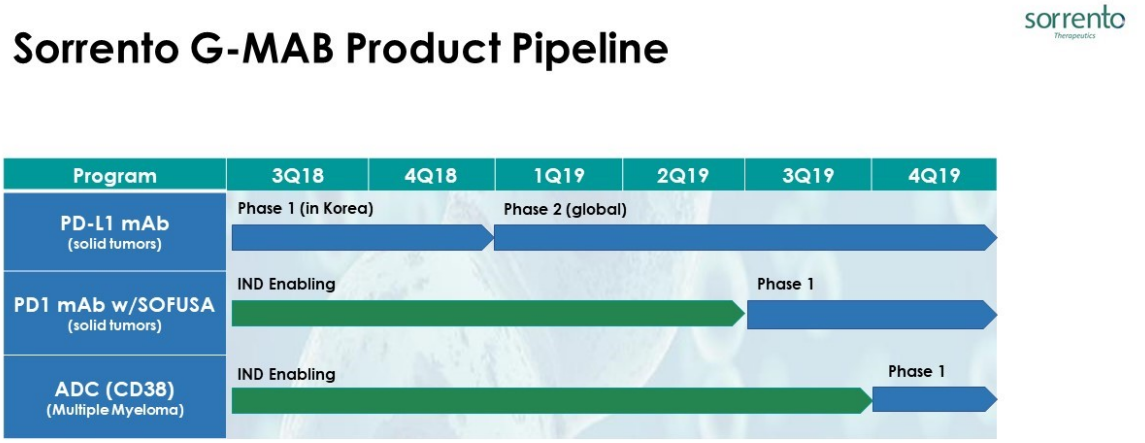
Cohort 1 – unblinded – WOMAC Q1 – Pain at Walking (flat surface)



sorrento Therapeutics

CAR-T Cell Therapy Pipeline

Program	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
CD38 (MM)	Phase 1					
CD38 (Next Gen.) (MM)	IND Enabling			Phase 1		Phase 2 /Pivotal
BCMA (MM)	IND Enabling			Phase 1		
CEA (Liver Metastases in Pancreatic Cancer)	Phase 1/2		Phase 2/Pivotal			
CEA (Ascites)	Phase 1					



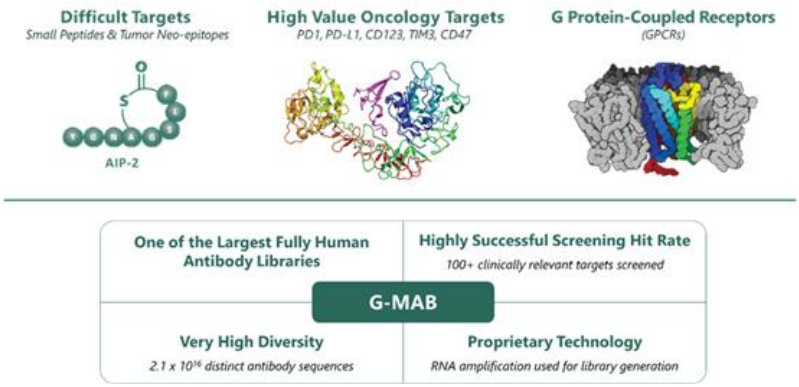
Technologies and Preclinical Pipeline

G-MAB™: Fully Human Antibody Library Platform

Our G-MAB™ library, which forms the backbone of many of our product candidates, was initially invented by Henry Ji, Ph.D., our co-founder, President and Chief Executive Officer. We believe our proprietary G-MAB™ library is one of the industry's largest and most diverse fully human antibody libraries, with an estimated one quadrillion unique antibodies available for drug discovery and development. We believe G-MAB™ may offer the following advantages over competing antibody libraries:

- G-MAB™ has been designed to provide a full spectrum of human immunoglobulin gene recombination in fully-human mAbs. Unlike chimeric and humanization technologies, G-MAB™ has allowed the generation of antibodies with fully-human protein sequences without the challenges and limitations of animal-to-human gene transfer procedures.
- Because G-MAB™ represents an *in vitro* human mAb library technology, research suggests that it enables faster and cost-effective *in vitro* screening of a large number of antigens. G-MAB™ is designed so that any antigen of interest can be investigated, with no dependence on the successful induction of a host immune response against the antigen.

The following is a depiction of the types of fully human mAbs that we have derived from G-MAB™. It includes antibodies that bind to a wide range of targets, from small molecular weight antigens to large protein complexes antigens, such as G-Protein Coupled Receptors ("GPCRs"), a difficult class of antigens to raise therapeutic antibodies against.



Our objective is to leverage G-MAB™ to develop first in class or best in class antibody drug candidates that will possess greater efficacy and fewer side effects as compared to existing drugs and develop them as novel monotherapies, ADCs (such as c-MET), components of bispecific antibodies, and as part of our adoptive immunotherapy (CD38, BCMA), oncolytic virus program and intracellular targeting programs (STAT3, mutant KRAS).

To date, we have screened over 100 validated targets and generated a number of fully human antibodies against these targets which are at various stages of development. These include PD-1, PD-L1, CD38, BCMA, CTLA-4, CD123, CD47, c-MET, VEGFR2, CCR2 and CD137 among others. Upon the completion of preclinical studies, our objective is to, independently or in tandem with our strategic collaborators, file INDs for these product candidates.

The following diagrams highlight our key antibody-related strategic partnerships and programs:

	Partner	*Asset Type*	*Partner Background*	*Partnership Details*
yuhan	**Yuhan Corporation**	Immuno-Oncology	• Yuhan Corporation is one of the largest Korean pharmaceutical companies founded over 80 years ago	• Joint Venture named ImmuneOncia Therapeutics, LLC • Focused on developing and commercializing a number of immune checkpoint antibodies for hematological malignancies and solid tumors
LEE'S PHARM.	**Lee's Pharmaceutical Holdings**	Immuno-Oncology	• Lee's Pharm is a public biopharma company with over 20 years of operation in China and currently markets 14 products in the PRC	• Sorrento has licensed exclusive rights to Lee's Pharma to develop and commercialize the fully human anti-PD-L1 mAb STI-A1014 for the greater Chinese market
morphotek Eisai	**Morphotek (Eisai)**	ADC	• Morphotek, a subsidiary of Eisai, Inc., specializes in the development of protein and antibody products through the use of a novel and proprietary gene evolution technology	• Collaboration agreement for Concortis (Sorrento) and Morphotek to generate novel ADCs based on a Morphotek antibody linked to chemotherapeutic agents using Concortis' proprietary ADC technology
CELULARITY	**Celularity**	Cellular Therapy	• Celularity is a joint venture utilizing TNK's CAR constructs for use in placenta-derived and cord-blood derived cells	• License of product rights to Celularity in exchange for equity

Dimeric Antigen Receptor ("DAR") Technology

Chimeric antigen receptors ("CARs") have been created for commercial and clinical development programs in the industry, so there is strong proof-of-concept for this approach, but there are also disadvantages with this technology. The architecture of the CAR consists of a single fusion protein with several functional components: a single-chain variable fragment ("scFv") derived from an anti-tumor antibody fused to a structural support segment, a transmembrane portion, and one or more intracellular signaling domains. Potential drawbacks of the CAR technology are the use of scFv that often possess inferior biophysical stability and biochemical functionality compared to their parental antibodies.

We are addressing these potential weaknesses while building on the clinical experience generated within our current CAR-T programs with the design of DARs that are based on the complete antigen-binding fragment ("Fab") of the parental antibody. It is generally accepted that Fabs more closely mimic the functional and biophysical properties of natural antibodies. Utilizing the same antibody binding domain sequence, we have compared CAR constructs with a scFv binding domain to a DAR construct with an Fab or two chain binding domain. Our data showed that the DAR-T cells exhibited a higher functional activity with regards to cytokine production, and cytotoxicity against target-expressing tumor cells compared to CAR-T cells. In preclinical mouse models, the DAR-T cells demonstrated increased anti-tumor potency as well.

We are currently applying our DAR technology to our ongoing cell therapy programs for multiple hematological and solid tumor indications, including but not limited to: multiple myeloma, lymphoma, liver cancer, sarcoma, pancreatic cancer and glioma. Utilizing the vast portfolio of target-specific, fully human monoclonal antibodies discovered from our proprietary G-MAB library, we plan on submitting one or more INDs for our lead DAR-T programs in 2019.

Non-viral Knock-Out, Knock-In ("KOKI") Technology

We have developed an innovative KOKI technology to introduce transgenes, for example CAR or DAR genes, into mammalian cells, such as T cells. These CAR-T cells have been evaluated and compared against CAR-T cells generated using current retrovirus transduction methodologies. Our data suggest that the non-virally generated CAR-T cells performed as well as retrovirally-transduced CAR-T cells with regard to CAR expression, cytokine production, and cytotoxicity against target-expressing tumor cells.

Our KOKI technology may offer several potential benefits over existing virus-based technology using transgene-encoding lentivirus, retrovirus or adeno-associated virus ("AAV") to introduce antigen receptor constructs into healthy donor (allogeneic) or cancer patient (autologous) T cells. These potential advantages of our non-viral KOKI technology include:

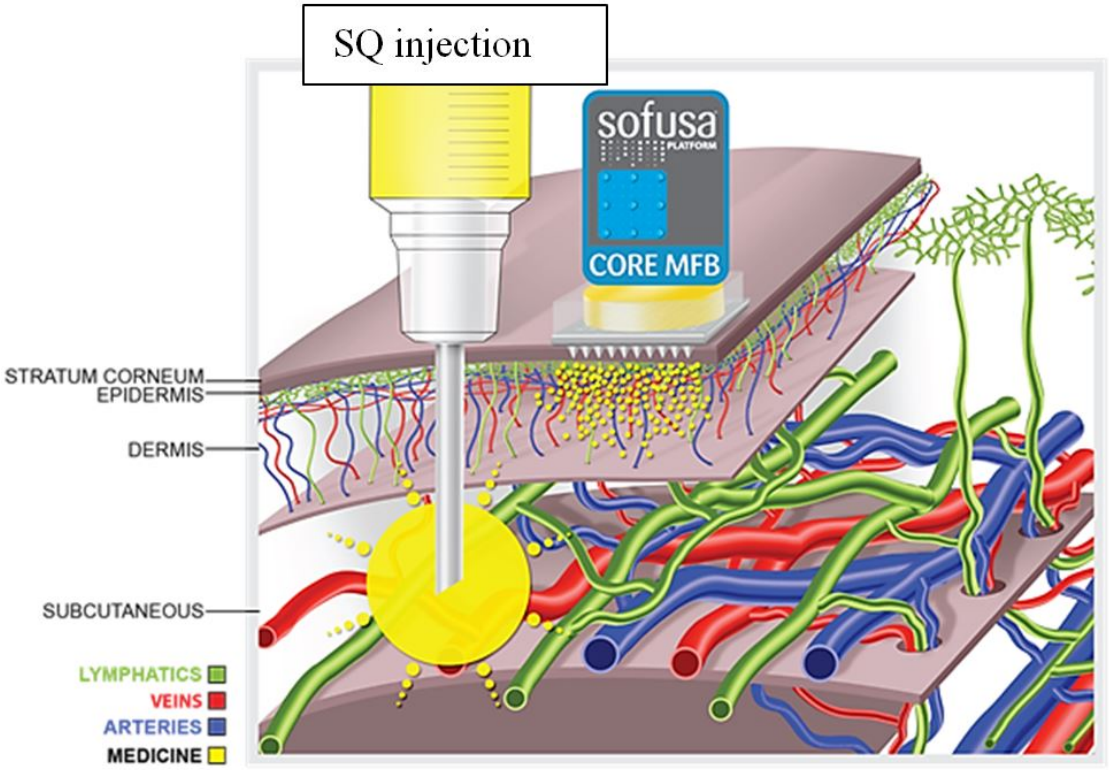
- site-specific integration of transgenes into a pre-selected locus in the T cell genome;
- streamlined method for transgene construct production without need for laborious and time-consuming virus production, release and validation processes, resulting in a shorter research and development timelines for IND-enabling activities; and
- applicability to both autologous and allogeneic cellular therapies.

We are developing our innovative KOKI technology for use in our CAR-T programs for the treatment of multiple hematological and solid tumor indications, including but not limited to: multiple myeloma, lymphoma, liver cancer, sarcoma, pancreatic cancer and glioma. We believe our KOKI technology has the potential to enable faster development timelines, more cost-effective cGMP manufacturing and possible removal of certain regulatory requirements for both autologous and allogeneic CAR-T and DAR-T therapies.

Sofusa®

Sofusa is a novel micro-epidermal infusion system that consists of a proprietary microneedle array and microfluidics reservoir for targeted lymphatic delivery of large molecules, such as antibodies. Abnormal lymphatic function is implicated in many conditions associated with immune suppression (oncology) and immune stimulation (autoimmune). Sofusa's proprietary polymer nanotopography (draped over microneedles) has been shown to activate cellular pathways and enhance paracellular and transcellular transport across the epidermis. This enables efficient and direct absorption into both systemic and lymphatic microcapillaries just beneath the epidermis.

Sofusa's unique biodistribution profile offers the potential for differentiated safety and efficacy versus IV and subcutaneous administration due to higher immune system concentrations and lower systemic concentrations of immune therapies. In 2018, pre-clinical animal models validated this hypothesis in oncology with an anti-CTLA4 (Yervoy®) and in rheumatoid arthritis with an anti-TNF- α (Enbrel®). In addition, a Phase I study with an imaging agent gave visual confirmation of direct lymphatic targeting and provided important verification of device design parameters. Phase 1b human clinical studies are planned in 2019 to begin development of highly differentiated immunotherapies.



While checkpoint inhibitors have been a major advance in treatment of certain types of cancer, response rates and dose limiting toxicities are areas for improvement. Two checkpoint inhibitor development programs have been initiated to evaluate the impact of lymphatic targeting using anti-PD-1 and anti-CTLA-4 antibodies. Pilot trials are being designed to evaluate the feasibility of Sofusa delivery of anti-PD-1 and CTLA-4 antibodies in patients with melanoma and other skin cancers accessible to biopsies for intensive biomarker assessments. These trials will help assess whether the principles of better efficacy and safety seen in lymphatic administration of drugs in animal models can be replicated in patients.

Preclinical arthritis models with Sofusa and an anti-TNF alpha blocker (Enbrel®) have demonstrated a highly statistically significant efficacy signal and restoration of lymphatic flow, which is disrupted in some rheumatologic conditions. Given these encouraging findings, a Phase 1B clinical trial is being initiated in Rheumatoid Arthritis to evaluate the impact of lymphatic on suppression of overactive immune response. Patients who no longer respond to methotrexate will be treated with Sofusa lymphatic delivery vs traditional subcutaneous injections and evaluated for clinical response and lymphatic flow and function. If successful, the Sofusa® DoseDisc™ wearable (wear time 30 minutes to 2 hours) offers the potential for both improved clinical response and a more convenient dosing alternative to traditional injections for patients. The FDA has now approved an IND to proceed with this Phase 1b Sofusa-etanercept study which will advance our efforts to develop our biosimilar assets as bio-better therapeutics, and/or for potential licensing opportunities.

Scilex Pharmaceuticals: ZTlido® (lidocaine topical system 1.8%)

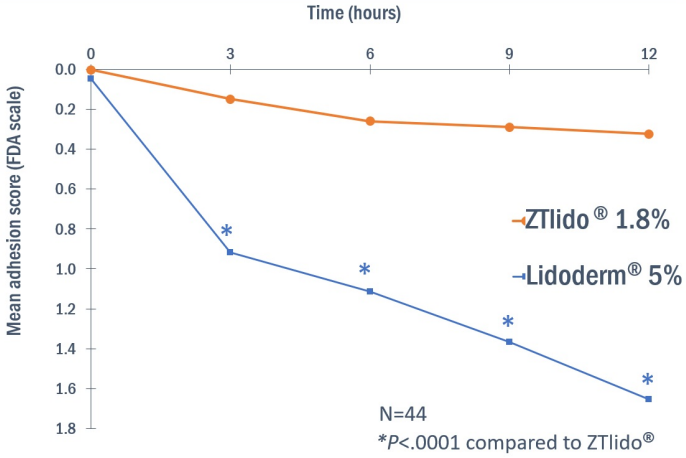
Scilex leverages its core, proprietary technologies to responsibly develop next generation, branded pharmaceutical products to better manage critical conditions and maximize the quality of life of patients and healthcare providers. Scilex's lead product candidate, ZTlido® (lidocaine topical system 1.8%), is a next-generation lidocaine delivery system approved by the FDA in February 2018 for the treatment of postherpetic neuralgia ("PHN"), a severe neuropathic pain condition. Having raised $140.0 million in financing in September 2018, Scilex commercially launched *ZTlido*® in late October 2018. Scilex has built a full commercial organization with over 100 experienced pain medicine sales representatives, supported by teams in market access, medical affairs and marketing. Currently, approximately 100 million lives are covered by commercial payers for *ZTlido*®.

The elderly population, individuals that have suffered a shingles infection, HIV/AIDS and cancer patients are at the highest risk of developing PHN. The 2016 Centers for Disease Control and Prevention Guideline for Prescribing Opioids in

Chronic Pain recommends topical lidocaine for the treatment of neuropathic pain. The prescription lidocaine patch market for all indications totaled almost $700.0 million in 2015 in the U.S.

Open-label, single-treatment, single-application, adhesion performance study in healthy adult subjects

FDA 5-Point Adhesion Assessment Scale	
Score	**Criteria**
0	≥90% adhered (essentially no lift off the skin)
1	≥75% to <90% adhered (some edges only lifting off the skin)
2	≥50% to <75% adhered (less than half of the patch lifting off the skin)
3	>0% to <50% adhered but not detached (more than half of the patch lifting off the skin without falling off)
4	0% adhered - patch detached (patch completely off the skin)



ZTlido® (lidocaine topical system 1.8%) is based on a novel and proprietary technology and contains only 36 mg of lidocaine but delivers the same amount of lidocaine compared to Endo Pharmaceuticals, Inc.'s Lidoderm® (lidocaine patch 5%), which holds 700 mg of lidocaine per patch. On February 28, 2018, the FDA approved ZTlido® (lidocaine topical system 1.8%) for the relief of pain associated with post-herpetic neuralgia. Scilex is exploring potential partnerships for the product in both European and Chinese markets.

See the section entitled “Risk Factors” in this Form 10-K for a discussion of some of the risks relating to the execution of our business strategy.

Recent Developments

2018 Securities Purchase Agreement in Private Placement and Amendments to Warrants

On March 26, 2018, we entered into a Securities Purchase Agreement, as amended by Amendment No. 1 thereto, dated as of June 13, 2018 (the "Securities Purchase Agreement") with certain accredited investors (the "Purchasers"). Pursuant to the Securities Purchase Agreement, we agreed to issue and sell to the Purchasers, in a private placement (the "Private Placement"), (1) convertible promissory notes in an aggregate principal amount of $37,848,750 (the "Notes"), and (2) warrants to purchase 2,698,662 shares of our common stock (the "Warrants").

On June 13, 2018, pursuant to the Securities Purchase Agreement, we issued and sold to the Purchasers, in the Private Placement, the Notes and the Warrants.

On November 7, 2018, we entered into an Agreement and Consent (the "Agreement and Consent") with the Purchasers. Pursuant to the Agreement and Consent, in consideration for certain of the Purchasers, in their capacity as holders of the Notes, providing a waiver and consent on behalf of all holders of the Notes, pursuant to which the Purchasers provided us with certain waivers of their rights and certain of our covenants under the Securities Purchase Agreement with respect to the Loan Agreement (as defined below) and the transactions contemplated thereby, we and the Purchasers agreed to amend the Warrants to reduce the exercise price per share of our common stock thereunder from $8.77 to $3.28.

Each Warrant has an exercise price of $3.28 per share, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, became exercisable on December 11, 2018, has a term of five and a half years from the date of issuance and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Warrants, in which case the Warrants shall also be exercisable on a cashless exercise basis.

2018 Purchase Agreements and Indenture for Scilex

On September 7, 2018, we entered into Purchase Agreements (the "2018 Purchase Agreements") with certain investors (collectively, the "Scilex Note Purchasers") and Scilex. Pursuant to the 2018 Purchase Agreements, on September 7, 2018, Scilex, among other things, issued and sold to the Scilex Note Purchasers senior secured notes due 2026 in an aggregate principal amount of $224,000,000 (the "Scilex Notes") for an aggregate purchase price of $140,000,000 (the "Offering"). In connection with the Offering, we also entered into an indenture (the "Indenture") governing the Scilex Notes with Scilex and U.S. Bank National Association, a national banking association, as trustee (the "Trustee") and collateral agent. Pursuant to the Indenture, we agreed to irrevocably and unconditionally guarantee, on a senior unsecured basis, the punctual performance and payment when due of all obligations of Scilex under the Indenture.

The net proceeds of the Offering were approximately $89.3 million, after deducting the Offering expenses payable by Scilex and funding a segregated reserve account with $20.0 million (the "Reserve Account") and a segregated collateral account with $25.0 million (the "Collateral Account") pursuant to the terms of the Indenture. The net proceeds of the Offering will be used by Scilex to support the commercialization of ZTlido® (lidocaine topical system 1.8%), for working capital and general corporate purposes in respect of the commercialization of ZTlido® (lidocaine topical system 1.8%). Funds in the Reserve Account will be released to Scilex upon receipt by the Trustee of an officer's certificate from Scilex confirming receipt of a marketing approval letter from the United States Food and Drug Administration with respect to ZTlido® (lidocaine topical system 5.4%) or a similar product with a concentration of not less than 5% (the "Marketing Approval Letter") on or prior to July 1, 2023. Funds in the Collateral Account will be released upon receipt of a written consent authorizing such release from the holders of a majority in principal amount of the Scilex Notes issued.

The holders of the Scilex Notes will be entitled to receive quarterly payments of principal of the Scilex Notes equal to a percentage, in the range of 10% to 20% of the net sales of ZTlido® (lidocaine topical system 1.8%) for the prior fiscal quarter, beginning on February 15, 2019. If Scilex has not received the Marketing Approval Letter by March 31, 2021, the percentage of net sales payable shall be increased to be in the range of 15% to 25%. If actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from October 1, 2022 through September 30, 2023 are less than 60% of a predetermined target sales threshold for such period, then Scilex will be obligated to pay an additional installment of principal of the Scilex Notes each quarter in an amount equal to an amount to be determined by reference to the amount of such deficiency.

The aggregate principal amount due under the Scilex Notes shall be increased by $28,000,000 on February 15, 2022 if actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from the issue date of the Scilex Notes through December 31, 2021 do not equal or exceed 95% of a predetermined target sales threshold for such period. If actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) for the period from October 1, 2022 through September 30, 2023 do not equal or exceed 80% of a predetermined target sales threshold for such period, the aggregate principal amount shall also be increased on November 15, 2023 by an amount equal to an amount to be determined by reference to the amount of such deficiency.

The final maturity date of the Scilex Notes will be August 15, 2026. The Scilex Notes may be redeemed in whole at any time upon 30 days' written notice at Scilex's option prior to August 15, 2026 at a redemption price equal to 100% of the then-outstanding principal amount of the Scilex Notes. In addition, upon a change of control of Scilex (as defined in the Indenture), each holder of a Scilex Note shall have the right to require Scilex to repurchase all or any part of such holder's Scilex Note at a repurchase price in cash equal to 101% of the then-outstanding principal amount thereof.

Oaktree Term Loan Agreement

On November 7, 2018, we and certain of our domestic subsidiaries (the "Guarantors") entered into a Term Loan Agreement (the "Loan Agreement") with certain funds and accounts managed by Oaktree Capital Management, L.P. (collectively, the "Lenders") and Oaktree Fund Administration, LLC, as administrative and collateral agent, for an initial term loan of $100.0 million (the "Initial Loan") and a second tranche of $50.0 million, subject to the achievement of certain commercial and financial milestones between August 7, 2019 and November 7, 2019, and the satisfaction of certain customary conditions (the "Conditional Loan"). The Initial Loan was funded on November 7, 2018. The net proceeds of the Initial Loan were approximately $91.3 million, after deducting estimated loan costs, commissions, fees and expenses, and will be used for general corporate purposes. In connection with the Loan Agreement, on November 7, 2018, we issued to the Lenders warrants to purchase 6,288,985 shares of our common stock (the "Initial Warrants"). The Initial Warrants have an exercise price per share of $3.28, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, will be exercisable from May 7, 2019 through May 7, 2029 and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Initial Warrants (the "Initial Warrant

Shares"), in which case the Initial Warrants shall also be exercisable on a cashless exercise basis. If the Conditional Loan is funded, we will issue to the Lenders additional warrants to purchase such number of shares of our common stock as is equal to 2% of our fully-diluted shares on the date the Conditional Loan is funded, subject to adjustment in certain circumstances (the "Conditional Warrants"). The Conditional Warrants will have an exercise price per share equal to the average volume-weighted average price of one share of our common stock for the ten trading days immediately preceding the date the Conditional Loan is funded, will be exercisable from the date that is six months following the date of issuance through the ten year anniversary of the date of issuance and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Conditional Warrants (the "Conditional Warrant Shares"), in which case the Conditional Warrants shall also be exercisable on a cashless exercise basis. In connection with the Loan Agreement, on November 7, 2018, we and the Lenders entered into a Registration Rights Agreement (the "Registration Rights Agreement") pursuant to which, among other things, we agreed to file one or more registration statements with the Securities and Exchange Commission (the "SEC") for the purpose of registering for resale the Initial Warrant Shares and the shares of common stock issuable upon exercise of warrants. Under the Registration Rights Agreement, we agreed to file a registration statement with the SEC registering all of the Initial Warrant Shares and the shares of common stock issuable upon exercise of the Conditional Warrants for resale by no later than the 45th day following the issuance of the Initial Warrants and the Conditional Warrants, respectively. On December 13, 2018, we filed a registration statement with the SEC registering all of the Initial Warrant Shares for resale, and such registration statement was declared effective by the SEC on December 21, 2018.

Acquired In-process Research and Development of BDL

In August 2015, we and TNK entered into a Stock Purchase Agreement (the "Stock Purchase Agreement") with BDL Products, Inc. ("BDL") and the stockholders of BDL (the "Stockholders") pursuant to which the Stockholders sold all of their shares of capital stock in BDL to TNK for: (1) a cash payment of $100.00, and (2) $6.0 million in shares of TNK Class A Stock, subject to adjustment in certain circumstances, to be issued to the Stockholders upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $50.0 million (a "Qualified Financing"). In accordance with subsequent amendments to the Stock Purchase Agreement, in the event a Qualified Financing did not occur by October 15, 2017 (subject to further extension as implied and based on previously amended dates) or TNK did not complete an initial public offering of shares of its capital stock by September 15, 2017, in lieu of receiving shares of TNK pursuant to the acquisition, the Stockholders would receive an aggregate of 309,916 shares of our common stock, subject to adjustment in certain circumstances. TNK did not complete a Qualified Financing by the financing deadline and we issued 309,916 shares of our common stock to the Stockholders on March 19, 2018.

Sofusa® Acquisition

On July 2, 2018, we entered into an Asset Purchase Agreement (the "Sofusa Purchase Agreement") with Kimberly-Clark Corporation ("KCC"), Kimberly-Clark Global Sales, LLC ("KCCGS"), and Kimberly-Clark Worldwide, Inc. ("KCCW" and together with KCC and KCCGS, "Kimberly-Clark") pursuant to which, among other things, we acquired certain of Kimberly-Clark's assets related to micro-needle drug delivery system, including the Sofusa® platform (the "Sofusa Assets") and related fixed assets, and assumed certain of Kimberly-Clark's liabilities related to the Sofusa Assets (the "Sofusa Acquisition"). The closing of the Sofusa Acquisition (the "Sofusa Closing") occurred on July 2, 2018. At the Sofusa Closing, we paid $10 million and agreed to pay additional consideration to Kimberly-Clark upon the achievement of certain regulatory and net sales milestones, as well as a percentage in the low double-digits of any non-royalty amounts received by us in connection with any license, sale or other grant of rights by us to develop or commercialize the Sofusa Assets (all such additional consideration, the "Sofusa Contingent Consideration"). Under the Sofusa Purchase Agreement, the aggregate amount of the Sofusa Contingent Consideration payable by us will not exceed $300.0 million. We also agreed to pay Kimberly-Clark a low single-digit royalty on all net sales with respect to the first five products developed by us or our licensees that utilizes intellectual property included in the Sofusa Assets. The transaction was accounted for as an asset acquisition since substantially all the value of the gross assets was concentrated in a single asset. Under the Asset Purchase Agreement, we acquired the Sofusa DoseDisc micro-needle technology designed to increase the efficacy of drug delivery by way of transdermal drug delivery for cash consideration of $10.0 million which was allocated based on the relative fair value of the assets acquired. No contingent consideration was recorded as of December 31, 2018 since the related regulatory approval milestones are not deemed probable until they actually occur. As a result, $9.5 million was expensed as a component of acquired in-process research and development and the remaining $0.5 million was recorded primarily to fixed assets as of December 31, 2018.

Patents and Other Proprietary Rights

We are able to protect our technology from unauthorized use by third parties only to the extent that it is covered by valid and enforceable patents, is effectively maintained as a trade secret, or is protected by confidentiality agreements. Accordingly, patents and other proprietary rights are essential elements of our business.

We have multiple issued patents and pending patent applications in the U.S. and in selected foreign jurisdictions that cover our G-MAB™ technology, G-MAB™-derived antibodies, other proprietary antibody-centric technologies, and pain management compounds, including, but not limited to, the following:

1) The G-MAB™ discovery antibody library technology. Certain aspects of this technology are covered by issued patents and are the subject matter of pending patent applications with potential patent coverage to at least 2023.

2) The G-MAB™-derived immuno-oncology antibody candidate portfolio. Certain of these antibody candidates are covered by issued patents and are the subject matter of pending applications and granted patents with potential patent coverage to at least 2033.

3) The bispecific antibody technology directed to the combination of one or more different monoclonal antibodies or fragments that can target multiple or different antigens. The bispecific antibody technology is the subject matter of pending applications with potential patent coverage to at least 2035.

4) The ADC technology using proprietary conjugation chemistries (called C-Lock and K-Lock), initially developed by Concortis Biosystems, Corp. ("Concortis"), one of our subsidiaries. This ADC technology is the subject matter of pending patent applications and granted patents with potential patent coverage to at least 2033. Additional pending patent applications directed to different toxin derivatives, are the subject matter of pending applications with potential patent coverage to at least 2035.

5) The CAR T-Cell based technology is an immunotherapy platform and is the subject matter of pending patent applications with potential patent coverage to at least 2035. Candidates arising from the platform are the subject matter of pending applications with potential patent coverage to at least 2037.

6) The CAR adoptive cellular immunotherapy using T cells and NK immune cells is directed to helping a patient’s immune system fight disease, including cancer. We have filed patent applications on the techniques for creating such therapies based on our CAR combination therapies providing with potential patent coverage to at least 2036.

7) The intracellular targeting antibody (iTAb) technology (LA Cell) for targeting intracellular targets for treating disease is the subject matter of pending patent applications with potential patent coverage to at least 2036. We have filed patent applications on improvements to this technology with potential patent coverage to at least 2038.

8) The new biosimilar / biobetter antibody technology using manufacture in certain cells (for example, directed to antigen targets such as EGFR or TNF-alpha) is the subject matter of pending patent applications with potential patent coverage to at least 2035.

9) The RTX (resiniferatoxin)-based pain management technology. Certain aspects of this technology are covered by an issued patent in the U.S. providing patent protection to at least 2021 and are the subject matter of pending patent applications that will provide potential patent coverage to at least 2036.

10) The lidocaine-based pain management technology was obtained by the acquisition of Scilex Pharmaceuticals Inc. Certain aspects of this technology are covered by several issued U.S. patents, which will not expire until at least 2031. Additional patent applications to improvements of this technology have been filed and have the potential to provide patent coverage to at least 2039 and may require the completion of clinical trials that compare the cost-effectiveness.

11) The Sofusa technology was acquired from Kimberly-Clark as a novel technology platform designed to deliver large molecules, such as antibodies, directly into lymphatic capillaries and tumor draining lymph nodes. This micro-epidermal infusion system features a proprietary microneedle array and microfluidics reservoir. The Sofusa technology is the subject of multiple granted and pending applications with potential patent coverage to at least 2037.

Certain factors can either extend patent terms or provide other forms of exclusivity (e.g., data exclusivity) for varying periods depending on the date of patent filing, date of grant or the legal term of a patent in the various jurisdictions in which patent protection is obtained. The actual protection afforded by a patent, which can vary from country to country, also depends upon the type of patent, the scope of claim coverage and the availability of legal remedies in the particular country.

While trade secret protection is an essential element of our business and we have taken security measures to protect our proprietary information and trade secrets, we cannot guarantee that our unpatented proprietary technology will afford us significant commercial protection. We seek to protect our trade secrets by entering into confidentiality agreements with third parties, employees and consultants. Our employees and consultants also sign agreements requiring that they assign to us their interest in any intellectual property arising from their work for us. All employees sign an agreement not to engage in any conflicting employment or activity during their employment with us and not to disclose or misuse our confidential information. However, it is possible that these agreements may be breached or invalidated and, if so, there may not be an adequate corrective remedy. Accordingly, we cannot guarantee that employees, consultants or third parties will not breach the confidentiality provisions in our contracts, infringe or misappropriate our trade secrets or other proprietary rights, or that measures we are taking to protect our proprietary rights will be adequate.

In the future, third parties may file claims asserting that our technologies or products infringe on their intellectual property. We cannot predict whether third parties will assert such claims against us or against the licensors of technology licensed to us, or whether those claims will harm our business. If we are forced to defend ourselves against such claims, whether they are with or without merit and whether they are resolved in favor of, or against, our licensors or us, we may face costly litigation and the diversion of management's attention and resources. As a result of such disputes, we may have to develop costly non-infringing technology or enter into licensing agreements. These agreements, if necessary, may be unavailable on terms acceptable to us, or at all.

Government Regulation

Government authorities in the U.S. (including federal, state and local authorities) and in other countries extensively regulate, among other things, the manufacturing, research and clinical development, marketing, labeling and packaging, storage, distribution, post-approval monitoring and reporting, advertising and promotion, pricing and export and import of pharmaceutical products, such as those we are developing. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Moreover, failure to comply with applicable regulatory requirements may result in, among other things, warning letters, clinical holds, civil or criminal penalties, recall or seizure of products, injunction, disbarment, partial or total suspension of production or withdrawal of the product from the market. Any agency or judicial enforcement action could have a material adverse effect on us.

U.S. Government Regulations

In the U.S., the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act ("FDCA"), and its implementing regulations. Drugs are also subject to other federal, state and local statutes and regulations. The process required by the FDA before product candidates may be marketed in the U.S. generally involves the following:

- submission to the FDA of an IND, which must become effective before human clinical trials may begin and must be updated annually;
- completion of extensive preclinical laboratory tests and preclinical animal studies, all performed in accordance with the FDA's Good Laboratory Practice ("GLP") regulations. Preclinical testing generally includes evaluation of our product candidates in the laboratory or in animals to characterize the product and determine safety and efficacy;
- performance of adequate and well-controlled human clinical trials to establish the safety and efficacy of the product candidate for each proposed indication;
- submission to the FDA of a Biologics License Application ("BLA") or an NDA after completion of all pivotal clinical trials;
- a determination by the FDA within 60 days of its receipt of a BLA or an NDA to file the NDA for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facilities at which the active pharmaceutical ingredient ("API") and finished drug product are produced and tested to assess compliance with cGMP regulations; and
- FDA review and approval of a BLA or an NDA prior to any commercial marketing or sale of the drug in the U.S.

In addition, we are subject to regulation under state, federal, and international laws and regulations regarding occupational safety, laboratory practices, import and export of materials and products, environmental protection and the use and handling of hazardous substance control, and other regulations. Our clinical trial and research and development activities involve the controlled use of hazardous materials and chemical compounds. Although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result and any such liability could exceed our financial resources. In addition, disposal of radioactive materials used in our clinical trials and research efforts may only be made at approved facilities. We believe that we are in material compliance with all applicable laws and regulations including those relating to the handling and disposal of hazardous and toxic waste.

An IND is a request for authorization from the FDA to administer an investigational drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol(s) for human studies. The IND also includes results of animal studies or other human studies, as appropriate, as well as manufacturing information, analytical data and any available clinical data or literature to support the use of the investigational new drug. An IND must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to the proposed clinical trials. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before clinical trials can begin. Accordingly, submission of an IND may or may not result in the FDA allowing clinical trials to commence.

Clinical trials involve the administration of the investigational drug to human subjects under the supervision of qualified investigators in accordance with Good Clinical Practices ("GCPs"), 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 study, the parameters to be used in monitoring safety, and the efficacy criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. Additionally, approval must also be obtained from each clinical trial site's institutional review board ("IRB") before the trials may be initiated, and the IRB must monitor the study until completed. There are also requirements governing the reporting of ongoing clinical trials and clinical trial results to public registries.

The clinical investigation of a drug is generally divided into three phases. Although the phases are usually conducted sequentially, they may overlap or be combined. The three phases of an investigation are as follows:

- *Phase I.* Phase I includes the initial introduction of an investigational new drug into humans. Phase I clinical trials are typically closely monitored and may be conducted in patients with the target disease or condition or in healthy volunteers. These studies are designed to evaluate the safety, dosage tolerance, metabolism and pharmacologic actions of the investigational drug in humans, the side effects associated with increasing doses, and if possible, to gain early evidence on effectiveness. During Phase I clinical trials, sufficient information about the investigational drug's pharmacokinetics and pharmacological effects may be obtained to permit the design of well-controlled and scientifically valid Phase II clinical trials. The total number of participants included in Phase I clinical trials varies, but is generally in the range of 20 to 80.

- *Phase II.* Phase II includes controlled clinical trials conducted to preliminarily or further evaluate the effectiveness of the investigational drug for a particular indication(s) in patients with the disease or condition under study, to determine dosage tolerance and optimal dosage, and to identify possible adverse side effects and safety risks associated with the drug. Phase II clinical trials are typically well-controlled, closely monitored, and conducted in a limited patient population, usually involving no more than several hundred participants.

- *Phase III.* Phase III clinical trials are generally controlled clinical trials conducted in an expanded patient population generally at geographically dispersed clinical trial sites. They are performed after preliminary evidence suggesting effectiveness of the drug has been obtained, and are intended to further evaluate dosage, clinical effectiveness and safety, to establish the overall benefit-risk relationship of the investigational drug product, and to provide an adequate basis for product approval. Phase III clinical trials usually involve several hundred to several thousand participants.

A pivotal trial is a clinical trial that adequately meets regulatory agency requirements for the evaluation of a drug candidate's efficacy and safety such that it can be used to justify the approval of the product. Generally, pivotal trials are also

Phase III trials but may be Phase II trials if the trial design provides a well-controlled and reliable assessment of clinical benefit, particularly in situations where there is an unmet medical need.

The FDA, the IRB or the clinical trial sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. 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 or not a trial may move forward at designated check points based on access to certain data from the study. We may also suspend or terminate a clinical trial based on evolving business objectives and/or competitive climate.

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, detailed investigational drug product information is submitted to the FDA in the form of an NDA requesting approval to market the product for one or more indications.

The application includes all relevant data available from pertinent preclinical and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls and proposed labeling, among other things. Data can come from company-sponsored clinical trials intended to test the safety and effectiveness of a use of a product, 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 and effectiveness of the investigational drug product to the satisfaction of the FDA.

Once the NDA submission has been accepted for filing, the FDA's goal is to review applications within ten months of submission or, if the application relates to an unmet medical need in a serious or life-threatening indication, six months from submission. The review process is often significantly extended by FDA requests for additional information or clarification. The FDA may refer the application to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it typically follows such recommendations.

After the FDA evaluates the NDA and conducts inspections of manufacturing facilities where the drug product and/or its API will be produced, it may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete and the application is not ready for approval. A Complete Response Letter may require additional clinical data, an additional pivotal Phase III clinical trial(s), and/or other significant, expensive and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. Even if such additional information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. The FDA could also approve the NDA with a Risk Evaluation and Mitigation Strategies ("REMS") plan to mitigate risks, which 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. The FDA also may condition approval on, among other things, changes to proposed labeling, development of adequate controls and specifications, or a commitment to conduct one or more post-market studies or clinical trials. Such post-market testing may include Phase IV clinical trials and surveillance to further assess and monitor the product's safety and effectiveness after commercialization. Regulatory approval of oncology products often requires that patients in clinical trials be followed for long periods to determine the overall survival benefit of the drug.

After regulatory approval of a drug product is obtained, we are required to comply with a number of post-approval requirements. As a holder of an approved NDA, we would be required to report, among other things, certain adverse reactions and production problems to the FDA, to provide updated safety and efficacy information, and to comply with requirements concerning advertising and promotional labeling for any of our products. Also, quality control and manufacturing procedures must continue to conform to cGMP after approval to ensure and preserve the long term stability of the drug product. The FDA periodically inspects manufacturing facilities to assess compliance with cGMP, which imposes extensive procedural, substantive and record keeping requirements. In addition, changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

We rely, and expect to continue to rely, on third parties for the production, distribution, shipping and storage of clinical and commercial quantities of our product candidates. Future FDA and state inspections may identify compliance issues at our facilities or at the facilities of our contract manufacturers that may disrupt production or distribution or require substantial

resources to correct. In addition, discovery of previously unknown problems with a product or the failure to comply with applicable requirements may result in restrictions on a product, manufacturer or holder of an approved NDA, including withdrawal or recall of the product from the market or other voluntary, FDA-initiated or judicial action that could delay or prohibit further marketing. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our product candidates under development.

Europe/Rest of World Government Regulations

In addition to regulations in the U.S., we will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our products.

Whether or not we obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the U.S. have a similar process that requires the submission of a clinical trial application much like the IND prior to the commencement of human clinical trials. In Europe, for example, a clinical trial application ("CTA") must be submitted to each country's national health authority and an independent ethics committee, much like the FDA and IRB, respectively. Once the CTA is approved in accordance with a country's requirements, clinical trial development may proceed.

The requirements and process governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, the clinical trials are conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

To obtain regulatory approval of an investigational drug under European Union regulatory systems, we must submit a marketing authorization application. The application used to file the NDA in the U.S. is similar to that required in Europe, with the exception of, among other things, country-specific document requirements. For other countries outside of the European Union, 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. In all cases, again, the clinical trials are conducted in accordance with GCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If we 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.

Available Special Regulatory Procedures

Formal Meetings

We are encouraged to engage and seek guidance from health authorities relating to the development and review of investigational drugs, as well as marketing applications. In the U.S., there are different types of official meetings that may occur between us and the FDA. Each meeting type is subject to different procedures. Conclusions and agreements from each of these meetings are captured in the official final meeting minutes issued by the FDA.

The European Medicines Agency ("EMA") also provides the opportunity for dialogue with us. This is usually done in the form of Scientific Advice, which is given by the Scientific Advice Working Party of the Committee for Medicinal Products for Human Use ("CHMP"). A fee is incurred with each Scientific Advice meeting.

Advice from either the FDA or EMA is typically provided based on questions concerning, for example, quality (chemistry, manufacturing and controls testing), nonclinical testing and clinical trials and pharmaco-vigilance plans and risk-management programs. Such advice is not legally binding on the sponsor. To obtain binding commitments from health authorities in the U.S. and the European Union, Special Protocol Assessment ("SPA") or Protocol Assistance procedures are available. An SPA is an evaluation by the FDA of a protocol with the goal of reaching an agreement with the sponsor that the protocol design, clinical endpoints and statistical analyses are acceptable to support regulatory approval of the product candidate with respect to effectiveness in the indication studied. The FDA's agreement to an SPA is binding upon the FDA except in limited circumstances, such as if the FDA identifies a substantial scientific issue essential to determining the safety or effectiveness of the product after clinical trials begin, or if the trial sponsor fails to follow the protocol that was agreed upon

with the FDA. There is no guarantee that a trial will ultimately be adequate to support an approval even if the trial is subject to an SPA.

Orphan Drug Designation

The FDA may grant orphan drug designation to drugs intended to treat a rare disease or condition that affects fewer than 200,000 individuals in the U.S., or if it affects more than 200,000 individuals in the U.S., there is no reasonable expectation that the cost of developing and making the drug for this type of disease or condition will be recovered from sales in the U.S. In the European Union, the EMA's Committee for Orphan Medicinal Products ("COMP") grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than 5 in 10,000 persons in the European Union Community. Additionally, designation is granted for products intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug or biological product.

In the U.S., 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. In addition, if a product receives the first FDA approval for the indication for which it has orphan designation, the product is entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same indication for a period of 7 years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity.

In the European Union, orphan drug designation also entitles a party to financial incentives such as reduction of fees or fee waivers and 10 years of market exclusivity is granted following drug or biological product approval. This period may be reduced to 6 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 marketing approval. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

Authorization Procedures in the European Union

Medicines can be authorized in the European Union by using either the centralized authorization procedure or national authorization procedures.

- *Centralized procedure.* The EMA implemented the centralized procedure for the approval of human medicines to facilitate marketing authorizations that are valid throughout the European Union. This procedure results in a single marketing authorization issued by the EMA that is valid across the European Union, as well as Iceland, Liechtenstein and Norway. The centralized procedure is compulsory for human medicines that are: derived from biotechnology processes, such as genetic engineering, contain a new active substance indicated for the treatment of certain diseases, such as HIV/AIDS, cancer, diabetes, neurodegenerative disorders or autoimmune diseases and other immune dysfunctions, and officially designated orphan medicines.
- For medicines that do not fall within these categories, an applicant has the option of submitting an application for a centralized marketing authorization to the EMA, as long as the medicine concerned is a significant therapeutic, scientific or technical innovation, or if its authorization would be in the interest of public health.
- *National authorization procedures.* There are also two other possible routes to authorize medicinal products in several countries, which are available for investigational drug products that fall outside the scope of the centralized procedure:
- *Decentralized procedure.* Using the decentralized procedure, an applicant may apply for simultaneous authorization in more than one European Union country of medicinal products that have not yet been authorized in any European Union country and that do not fall within the mandatory scope of the centralized procedure.
- *Mutual recognition procedure.* In the mutual recognition procedure, a medicine is first authorized in one European Union Member State, in accordance with the national procedures of that country. Following this, further marketing authorizations can be sought from other European Union countries in a procedure whereby the countries concerned agree to recognize the validity of the original, national marketing authorization.

Priority Review/Standard Review (U.S.) and Accelerated Review (European Union)

Based on results of the Phase III clinical trial(s) submitted in an NDA, upon the request of an applicant, the FDA may grant the NDA a priority review designation, which sets the target date for FDA action on the application at six months. Priority review is granted where preliminary estimates indicate that a product, if approved, has the potential to provide a safe and effective therapy where no satisfactory alternative therapy exists, or a significant improvement compared to marketed products is possible. If criteria are not met for priority review, the NDA is subject to the standard FDA review period of 10 months. Priority review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

Under the Centralized Procedure in the European Union, the maximum timeframe for the evaluation of a marketing authorization application is 210 days (excluding clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the CHMP). Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is expected to be of a major public health interest, defined by three cumulative criteria: the seriousness of the disease (e.g., heavy disabling or life-threatening diseases) to be treated; the absence or insufficiency of an appropriate alternative therapeutic approach; and anticipation of high therapeutic benefit. In this circumstance, EMA ensures that the opinion of the CHMP is given within 150 days, excluding clock stops.

There can be no assurance that we or any of our partners would be able to satisfy one or more of these requirements to conduct preclinical or clinical trials or receive any regulatory approvals.

Pharmaceutical Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any drug products for which we obtain regulatory approval. In the U.S. and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors. Third-party payors include government health administrative authorities, managed care providers, private health insurers and other organizations. The process for determining whether a payor will provide coverage for a drug product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the drug product. Third-party payors may limit coverage to specific drug products on an approved list, or formulary, which might not include all of the FDA-approved drugs for a particular indication. Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of medical products and services, in addition to their safety and efficacy. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

In 2003, the U.S. government enacted legislation providing a partial prescription drug benefit for Medicare beneficiaries, which became effective at the beginning of 2006. Government payment for some of the costs of prescription drugs may increase demand for any products for which we receive marketing approval. However, to obtain payments under this program, we would be required to sell products to Medicare recipients through prescription drug plans operating pursuant to this legislation. These plans will likely negotiate discounted prices for our products. Further, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "Healthcare Reform Law"), substantially changed the way healthcare is financed in the U.S. by both government and private insurers. Among other cost containment measures, the Healthcare Reform Law established:

- An annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents;
- A new Medicare Part D coverage gap discount program, in which pharmaceutical manufacturers who wish to have their drugs covered under Part D must offer discounts to eligible beneficiaries during their coverage gap period (the "donut hole"); and
- A new formula that increases the rebates a manufacturer must pay under the Medicaid Drug Rebate Program.

We expect that federal, state and local governments in the U.S. will continue to consider legislation to limit the growth of healthcare costs, including the cost of prescription drugs. Future legislation could limit payments for pharmaceuticals such as the drug candidates that we are developing.

Different pricing and reimbursement schemes exist in other countries. In the European Union, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for medicines, but monitor and control company profits. The downward pressure on health care costs in general, particularly prescription drugs, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any products for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, an increasing emphasis on managed care in the U.S. has increased and we expect will continue to increase the pressure on pharmaceutical pricing. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Other Healthcare Laws and Compliance Requirements

If we obtain regulatory approval for any of our product candidates, we may be subject to various federal and state laws targeting fraud and abuse in the healthcare industry. For example, in the U.S., there are federal and state anti-kickback laws that prohibit the payment or receipt of kickbacks, bribes or other remuneration intended to induce the purchase or recommendation of healthcare products and services or reward past purchases or recommendations. Violations of these laws can lead to civil and criminal penalties, including fines, imprisonment and exclusion from participation in federal healthcare programs.

The federal Anti-Kickback Statute prohibits persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, to induce either the referral of an individual, or the furnishing, recommending, or arranging for a good or service, for which payment may be made under a federal healthcare program, such as the Medicare and Medicaid programs. The reach of the Anti-Kickback Statute was broadened by the Healthcare Reform Law, which, among other things, amended the intent requirement of the federal Anti-Kickback Statute and the applicable criminal healthcare fraud statutes contained within 42 U.S.C. § 1320a-7b, effective March 23, 2010. Pursuant to the statutory amendment, a person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. 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 civil False Claims Act (discussed below) or the civil monetary penalties statute. Many states have adopted laws similar to the federal Anti-Kickback Statute, some of which apply to the referral of patients for healthcare items or services reimbursed by any source, not only the Medicare and Medicaid programs.

The federal False Claims Act imposes liability on any person who, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment by a federal healthcare program. The “qui tam” provisions of the False Claims Act allow a private individual to bring civil actions on behalf of the federal government alleging that the defendant has submitted a false claim to the federal government, and to share in any monetary recovery. In addition, various states have enacted false claims laws analogous to the False Claims Act. Many of these state laws apply where a claim is submitted to any third-party payer and not merely a federal healthcare program. When an entity is determined to have violated the False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties of $5,500 to $11,000 for each separate false claim.

Also, the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) created several new federal crimes, including healthcare fraud, and false statements relating to healthcare matters. The health care fraud statute prohibits knowingly and willfully executing a scheme to defraud any health care benefit program, including private third-party payers. The false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for health care benefits, items or services.

In addition, we may be subject to, or our marketing activities may be limited by HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, which established uniform standards for certain “covered entities” (healthcare providers, health plans and healthcare clearinghouses) and their business

associates governing the conduct of certain electronic healthcare transactions and protecting the security and privacy of protected health information.

Antibody Clinical Development

We currently focus our research efforts primarily in the identification and isolation of human antibody drug candidates and further characterize these antibody candidates in *in vitro* and *in vivo* functional testing. Due to our limited financial resources, we intend to actively seek product development and commercialization partners from the biopharmaceuticals industry to help us advance the clinical development of select product candidates.

Marketing and Sales

With the exception of our subsidiary, Scilex, we currently do not have any sales capabilities. We intend to license to, or enter into strategic alliances with, larger companies in the biopharmaceutical businesses or use the services of contract sales organizations ("CROs"), which are equipped to, market and/or sell our products, if any, through their well-developed marketing and sales teams and distribution networks. We intend to license some or all of our worldwide patent rights to more than one third party to achieve the fullest development, marketing and distribution of any products we develop.

Manufacturing and Raw Materials

We currently manufacture the majority of our preclinical and clinical materials in-house, and use contract manufacturers for the manufacture of some of our product candidates. We may or may not manufacture the products we develop, if any. As of December 31, 2018, our Scilex ZTlido® product is manufactured by ITOCHU CHEMICAL FRONTIER Corporation. Our internal manufacturing and contract manufacturers are subject to extensive governmental regulation. Regulatory authorities in our markets require that pharmaceutical products be manufactured, packaged and labeled in conformity with cGMPs. We have established a quality control and quality assurance program, which includes a set of standard operating procedures and specifications designed to ensure that our products are manufactured in accordance with cGMPs, and other applicable domestic and foreign regulations.

Employees

As of December 31, 2018, we had 382 employees and 36 consultants and advisors. A significant number of our management and our other employees and consultants have worked or consulted with pharmaceutical, biotechnology or medical product companies. While we have been successful in attracting skilled and experienced scientific personnel, there can be no assurance that we will be able to attract or retain the necessary qualified employees and/or consultants in the future.

None of our employees are covered by collective bargaining agreements and we consider relations with our employees to be good.

Corporate Information

On September 21, 2009, QuikByte Software, Inc., a Colorado corporation and shell company (“QuikByte”), consummated its acquisition of Sorrento Therapeutics, Inc., a Delaware corporation and private concern (“STI”), in a reverse merger (the “Merger”). Pursuant to the Merger, all of the issued and outstanding shares of STI common stock were converted into an aggregate of 6,775,032 shares of QuikByte common stock and STI became a wholly owned subsidiary of QuikByte. The holders of QuikByte’s common stock immediately prior to the Merger held an aggregate of 2,228,333 shares of QuikByte’s common stock immediately following the Merger.

We were originally incorporated as San Diego Antibody Company in California in 2006 and were renamed “Sorrento Therapeutics, Inc.” and reincorporated in Delaware in 2009, prior to the Merger. QuikByte was originally incorporated in Colorado in 1989. Following the Merger, on December 4, 2009, QuikByte reincorporated under the laws of the State of Delaware (the “Reincorporation”). Immediately following the Reincorporation, on December 4, 2009, we merged with and into QuikByte, the separate corporate existence of STI ceased and QuikByte continued as the surviving corporation (the “Roll-Up Merger”). Pursuant to the certificate of merger filed in connection with the Roll-Up Merger, QuikByte’s name was changed from “QuikByte Software, Inc.” to “Sorrento Therapeutics, Inc.”

Address

Our principal executive offices are located at 4955 Directors Place, San Diego, CA 92121, and our telephone number at that address is (858) 203-4100. Our website is www.sorrentotherapeutics.com. Any information contained on, or that can be accessed through, our website is not incorporated by reference into, nor is it in any way part of this Form 10-K.

Available Information

We file electronically with the U.S. Securities and Exchange Commission (the "SEC") our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and reports filed pursuant to Section 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended. We make available on our website at www.sorrentotherapeutics.com, free of charge, copies of these reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Copies of our annual report to stockholders will also be made available, free of charge, upon written request.

The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at http://www.sec.gov. The contents of these websites are not incorporated into this filing. Further, our references to the URLs for these websites are intended to be inactive textual references only.

Item 1A. Risk Factors.

Risks Related to Our Financial Position and Capital Requirements

We are a clinical stage company subject to significant risks and uncertainties, including the risk that we or our partners may never develop, obtain regulatory approval or market any of our product candidates or generate product related revenues.

We are primarily a clinical stage biotechnology company that began operating and commenced research and development activities in 2009. Pharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. There is no assurance that our libraries of fully-human mAbs or any of our other product candidates in development will be suitable for diagnostic or therapeutic use, or that we will be able to identify and isolate therapeutics product candidates, or develop, market and commercialize these candidates. We do not expect any of our product candidates in development, including, but not limited to, our fully-human mAbs, biosimilars/biobetters, fully human anti-PD-L1 and anti-PD-1 checkpoint inhibitors derived from our proprietary G-MAB™ library platform, antibody drug conjugates ("ADCs"), BsAbs, as well as Chimeric Antigen Receptor-T Cell ("CAR-T") for adoptive cellular immunotherapy and resiniferatoxin ("RTX") to be commercially available for a few years, if at all. Even if we are able to commercialize our product candidates, there is no assurance that these candidates would generate revenues or that any revenues generated would be sufficient for us to become profitable or thereafter maintain profitability.

We do not have many products that are approved for commercial sale and therefore do not expect to generate any revenues from product sales from most of our product candidates in the foreseeable future, if ever.

We have generated limited product related revenues to date, and, with the exception of our ZTlido® (lidocaine topical system 1.8%), do not expect to generate any such revenues for at least the next several years, if at all. To obtain revenues from sales of our product candidates, we must succeed, either alone or with third parties, in developing, obtaining regulatory approval for, manufacturing and marketing products with commercial potential. We may never succeed in these activities, and we may not generate sufficient revenues to continue our business operations or achieve profitability.

We have incurred significant losses since inception and anticipate that we will incur continued losses for the foreseeable future.

As of December 31, 2018 and December 31, 2017, we had an accumulated deficit of $367.8 million and $165.1 million, respectively. We continue to incur significant research and development and other expenses related to our ongoing operations. We have incurred operating losses since our inception, expect to continue to incur significant operating losses for the foreseeable future, and we expect these losses to increase as we: (i) advance RTX and our other product candidates into clinical trials and pursue other development, acquire, develop and manufacture clinical trial materials and increase other regulatory operating activities, (ii) incur incremental expenses associated with our efforts to further advance a number of potential product candidates into preclinical development activities, (iii) continue to identify and advance a number of fully human therapeutic antibody and ADC preclinical product candidates, (iv) incur higher salary, lab supply and infrastructure costs incurred in connection with supporting all of our programs, (v) invest in our joint ventures, collaborations or other third party agreements, (vi) incur expenses in conjunction with defending and enforcing our rights in various litigation matters, (vii) expand our corporate, development and manufacturing infrastructure, and (viii) support our subsidiaries, such as Scilex Pharmaceuticals Inc. ("Scilex"), in their commercialization efforts. As such, we are subject to all risks incidental to the development of new

biopharmaceutical products and related companion diagnostics, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital.

We will require substantial additional funding, which may not be available to us on acceptable terms, or at all. If we fail to raise the necessary additional capital, we may be unable to complete the development and commercialization of our product candidates or continue our development programs.

Our operations have consumed substantial amounts of cash since inception. We expect to significantly increase our spending to advance the preclinical and clinical development of our product candidates and launch and commercialize any product candidates for which we receive regulatory approval, including building our own commercial organization to address certain markets. We will require additional capital for the further development and commercialization of our product candidates, as well as to fund our other operating expenses and capital expenditures.

As a result of our recurring losses from operations, recurring negative cash flows from operations and substantial cumulative losses, there is uncertainty regarding our ability to maintain liquidity sufficient to operate our business effectively, which raises substantial doubt about our ability to continue as a going concern. If we are unsuccessful in our efforts to raise outside financing, we may be required to significantly reduce or cease operations. The report of our independent registered public accounting firm on our audited financial statements for the year ended December 31, 2018 included a "going concern" explanatory paragraph indicating that our recurring losses from operations, recurring negative cash flows from operations and substantial cumulative losses raise substantial doubt about our ability to continue as a going concern.

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 one or more of our product candidates. We may also seek collaborators for one or more of our current or future product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available. Any of these events could significantly harm our business, financial condition and prospects.

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

- the progress of the development of our fully-human mAbs, including biosimilars/biobetters, fully human anti-PD-L1 and anti-PD-1 checkpoint inhibitors derived from our proprietary G-MAB™ library platform, ADCs, BsAbs, as well as CAR-T for adoptive cellular immunotherapy and RTX;
- the number of product candidates we pursue;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in filing and prosecuting patent applications and enforcing or defending patent claims;
- our plans to establish sales, marketing and/or manufacturing capabilities;
- the effect of competing technological and market developments;
- the terms and timing of any collaborative, licensing and other arrangements that we may establish;
- general market conditions for offerings from biopharmaceutical companies;
- our ability to establish, enforce and maintain selected strategic alliances and activities required for product commercialization; and
- our revenues, if any, from successful development and commercialization of our product candidates, including ZTlido® (lidocaine topical system 1.8%).

In order to carry out our business plan and implement our strategy, we anticipate that we will need to obtain additional financing from time to time and may choose to raise additional funds through strategic collaborations, licensing arrangements, joint ventures, public or private equity or debt financing, bank lines of credit, asset sales, government grants or other arrangements. We cannot be sure that any additional funding, if needed, will be available on terms favorable to us or at all. Furthermore, any additional equity or equity-related financing may be dilutive to our stockholders, and debt or equity financing, if available, may subject us to restrictive covenants and significant interest costs. If we obtain funding through a strategic collaboration or licensing arrangement, we may be required to relinquish our rights to certain of our product candidates or marketing territories.

Further, there is uncertainty related to future National Institutes of Health ("NIH") grant funding, and the NIH's plans for new grants or cooperative agreements may be re-scoped, delayed, or canceled depending on the nature of the work and the availability of resources. As a result, we cannot assure you that we will receive any additional funding under our existing NIH grants, and we may not be successful in securing additional grants from the NIH in the future.

Our inability to raise capital when needed would harm our business, financial condition and results of operations, and could cause our stock price to decline or require that we wind down our operations altogether.

Risks Related to Our Business and Industry

We are heavily dependent on the success of our technologies and product candidates, and we cannot give any assurance that our product candidates will receive regulatory approval, which is necessary before they can be commercialized.

To date, we have invested a significant portion of our efforts and financial resources in the acquisition and development of our product candidates. As an early stage company, we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical area. Our future success is substantially dependent on our ability to successfully develop, obtain regulatory approval for, and then successfully commercialize such product candidates. Other than ZTlido® (lidocaine topical system 1.8%), our product candidates are currently in preclinical development or in clinical trials. Our business depends entirely on the successful development and commercialization of our product candidates, which may never occur. We currently do not generate significant revenues from sales of any products, and we may not be able to develop or commercialize our product candidates.

The successful development, and any commercialization, of our technologies and any product candidates would require us to successfully perform a variety of functions, including:

- developing our technology platform;
- seeking and obtaining intellectual property and/or proprietary rights to our technology and/or the technology of others;
- identifying, developing, manufacturing and commercializing product candidates;
- entering into successful licensing and other arrangements with product development partners;
- participating in regulatory approval processes;
- formulating and manufacturing products; and
- conducting sales and marketing activities.

Our operations have been limited to organizing our company, acquiring, developing and securing our proprietary technology and identifying and obtaining early preclinical data or clinical data for various product candidates. These operations provide a limited basis for you to assess our ability to continue to develop our technology, identify product candidates, develop and commercialize any product candidates we can identify and enter into successful collaborative arrangements with other companies, as well as for you to assess the advisability of investing in our securities. Each of these requirements will require substantial time, effort and financial resources.

Each of our product candidates will require additional preclinical or clinical development, management of preclinical, clinical and manufacturing activities, regulatory approval in multiple jurisdictions, obtaining manufacturing supply, building of a commercial organization, and significant marketing efforts before we generate any revenues from product sales. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the U.S. Food and Drug Administration (the "FDA"), the United Kingdom's Medicines and Healthcare Products Regulatory Agency (the "MHRA"), the European Medicines Agency ("EMA") or comparable foreign regulatory authorities, and we may never receive such regulatory approval for any of our product candidates. In addition, our product development programs contemplate the development of companion diagnostics by our third-party collaborators. Companion diagnostics are subject to regulation as medical devices and must themselves be approved for marketing by the FDA, the MHRA, the EMA or certain other foreign regulatory agencies before we may commercialize our product candidates.

Delays in clinical testing could result in increased costs to us and delay our ability to generate revenue.

Although we are planning for certain clinical trials relating to RTX, CAR-T, and biosimilar/biobetter antibodies and other product candidates, there can be no assurance that the FDA will accept our proposed trial designs. We may experience delays in our clinical trials, and we do not know whether planned clinical trials will begin on time, need to be redesigned, enroll patients on time or be completed on schedule, if at all. Clinical trials can be delayed for a variety of reasons, including delays related to:

- obtaining regulatory approval to commence a trial;
- reaching agreement on acceptable terms with prospective contract research organizations ("CROs") and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining institutional review board ("IRB") approval at each site;

- recruiting suitable patients to participate in a trial;
- clinical sites deviating from trial protocol or dropping out of a trial;
- having patients complete a trial or return for post-treatment follow-up;
- developing and validating companion diagnostics on a timely basis, if required;
- adding new clinical trial sites; or
- manufacturing sufficient quantities of product candidate for use in clinical trials.

Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. Furthermore, we intend to rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials and we intend to have agreements governing their committed activities, but we will have limited influence over their actual performance.

We could encounter delays if a clinical trial is suspended or terminated by us, by the IRBs of the institutions in which such trials are being conducted, by the Data Monitoring Committees (also known as Data and Safety Monitoring Board or Data and Safety Monitoring Committee) for such trial or by the FDA or other regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

If we experience delays in the completion of, or termination of, any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, financial condition and prospects significantly. In addition, many of the factors that cause, or 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.

Competition for patients in conducting clinical trials may prevent or delay product development and strain our limited financial resources.

Many pharmaceutical companies are conducting clinical trials in patients with the disease indications that our potential drug products target. As a result, we must compete with them for clinical sites, physicians and the limited number of patients who fulfill the stringent requirements for participation in clinical trials. Also, due to the confidential nature of clinical trials, we do not know how many of the eligible patients may be enrolled in competing studies and who are consequently not available to us for our clinical trials. Our clinical trials may be delayed or terminated due to the inability to enroll enough patients. Patient enrollment depends on many factors, including the size of the patient population, the nature of the trial protocol, the proximity of patients to clinical sites and the eligibility criteria for the study. The delay or inability to meet planned patient enrollment may result in increased costs and delays or termination of the trial, which could have a harmful effect on our ability to develop products.

The regulatory approval processes of the FDA, the MHRA, the EMA 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.

The time required to obtain approval from the FDA, the MHRA, the EMA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of 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. Other than ZTlido® (lidocaine topical system 1.8%), we have not obtained regulatory approval for any product candidate and it is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain regulatory approval.

We may fail to receive regulatory approval for our product candidates for many reasons, including the following:

- the FDA, the MHRA, the EMA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA, the MHRA, the EMA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical significance required for approval by the FDA, the MHRA, the EMA or comparable foreign regulatory authorities;
- the FDA, the MHRA, the EMA 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, a marketing authorization application ("MAA") or other submission or to obtain regulatory approval in the U.S., the United Kingdom, the European Union or elsewhere;
- the FDA, the MHRA, the EMA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies;
- the FDA, the MHRA, the EMA or comparable foreign regulatory authorities may fail to approve the companion diagnostics we contemplate developing with partners; and
- the approval policies or regulations of the FDA, the MHRA, the EMA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market our product candidates, which would significantly harm our business, results of operations and prospects.

In addition, 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, may not approve the price we intend to charge for our products, 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.

Other than a U.S. new drug application submitted by Scilex for Scilex's lead product candidate, ZTlido® (lidocaine topical system 1.8%), which was approved by the FDA in February 2018, and an MAA filed in Europe (which was subsequently withdrawn in 2019), we have not previously submitted a BLA or an NDA to the FDA, an MAA to the MHRA or the EMA or similar drug approval filings to comparable foreign authorities, for any product candidate, and we cannot be certain that any of our product candidates will be successful in clinical trials or receive regulatory approval. Further, our product candidates may not receive regulatory approval even if our clinical trials are successful. If we do not receive regulatory approvals for our product candidates, we may not be able to continue our operations. Even if we successfully obtain regulatory approvals to market one or more of our product candidates, our revenues will be dependent, in some instances, upon our collaborators' ability to obtain regulatory approval of the companion diagnostics to be used with our product candidates, as well as the size of the markets in the territories for which we gain regulatory approval and have commercial rights. If the markets for patients that we are targeting for our product candidates are not as significant as we estimate, we may not generate significant revenues from sales of such products, if approved.

We plan to seek regulatory approval to commercialize our product candidates in the U.S., the United Kingdom, the European Union and in additional foreign countries. While the scope of regulatory approval is similar in other countries, to obtain separate regulatory approval in many other countries we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales, pricing and distribution of our product candidates, and we cannot predict success in these jurisdictions. Further, the United Kingdom has voted to withdraw from the European Union. We cannot predict what consequences the withdrawal of the United Kingdom from the European Union might have on the regulatory frameworks of the United Kingdom or the European Union, or on our future operations, if any, in these jurisdictions.

Our approach to the discovery and development of product candidates that target ADCs or iTAbs is unproven, and we do not know whether we will be able to develop any products of commercial value.

ADCs and intracellular targeting antibodies ("iTAbs") are emerging technologies and, consequently, it is conceivable that such technologies may ultimately fail to identify commercially viable products to treat human patients with cancer or other diseases. Due to the unproven nature of ADCs and iTAbs, significant further research and development activities will be required. We may incur substantial costs in connection with such research and development activities and there is no guarantee that these activities will lead to the identification of commercially viable products.

Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign authorities. Results of our trials could reveal a high and unacceptable severity and prevalence of these or other side effects. In such an event, our trials could be suspended or terminated, and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates for any or all targeted indications. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if we receive marketing approval for one or more of our product candidates, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such products;
- regulatory authorities may require additional warnings on the label;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

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

We rely on third parties to conduct our preclinical and clinical trials. If these third parties do not successfully perform their contractual legal and regulatory duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We have relied upon and plan to continue to rely upon third-party CROs to monitor and manage data for our ongoing preclinical and clinical programs. We rely on these parties for execution of our preclinical and clinical trials, and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with current good clinical practices (“cGCP”), which are regulations and guidelines enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area, and comparable foreign regulatory authorities for all of our product candidates in clinical development.

Regulatory authorities enforce these cGCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, the MHRA, the EMA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications or may not approve our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with cGCP regulations. In addition, our clinical trials must be conducted with product produced under current good manufacturing practices (“cGMP”) regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs or to do so on commercially reasonable terms. In addition, our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources to our on-going clinical, nonclinical and preclinical programs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed.

Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

If we fail to comply with manufacturing regulations, our financial results and financial condition will be adversely affected.

We currently manufacture some of our preclinical and clinical materials in-house. However, we only recently began manufacturing such materials and do not have significant prior experience manufacturing preclinical or clinical materials or product candidates. Before we can begin commercial manufacture of our product candidates, regulatory authorities must approve marketing applications that identify manufacturing facilities operated by us or our contract manufacturers that have passed regulatory inspection and manufacturing processes that are acceptable to the regulatory authorities. In addition, our pharmaceutical manufacturing facilities are continuously subject to scheduled and unannounced inspection by the FDA and international regulatory authorities, before and after product approval, to monitor and ensure compliance with cGMP and other regulations. Additionally, we may use contract manufacturers for the manufacture of our product candidates from time to time based on capacity needs. Although we are not involved in the day-to-day operations of our contract manufacturers, we are ultimately responsible for ensuring that our products are manufactured in accordance with cGMP regulations.

Due to the complexity of the processes used to manufacture our product candidates, we may be unable to continue to pass or initially pass federal or international regulatory inspections in a cost-effective manner. For the same reason, any potential third-party manufacturer of our product candidates may be unable to comply with cGMP regulations in a cost-effective manner and may be unable to initially or continue to pass a federal or international regulatory inspection.

If we, or third-party manufacturers with whom we contract, are unable to comply with manufacturing regulations, we may be subject to delay of approval of our product candidates, warning or untitled letters, fines, unanticipated compliance expenses, recall or seizure of our products, total or partial suspension of production and/or enforcement actions, including injunctions, and criminal or civil prosecution. These possible sanctions would adversely affect our financial results and financial condition.

With specific regard to ZTlido® (lidocaine topical system 1.8%) and other drug products we do not manufacture in-house, but rather through a third-party manufacturer, if a third-party manufacturer upon which we rely fails to produce drug candidates that we require on a timely basis, or to comply with stringent regulations applicable to pharmaceutical drug manufacturers, we may face delays in the trials, regulatory submissions, required approvals or commercialization of our drug candidates. The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, which include difficulties with production costs and yields, quality control and assurance and shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. The third-party manufacturers we contract with may not perform as agreed or may terminate their agreements with us. Any of these factors could cause us to delay or suspend any future clinical trials, regulatory submissions, required approvals or commercialization of one or more of our drug candidates, entail higher costs and result in our being unable to effectively commercialize products.

Material necessary to manufacture our product candidates may not be available on commercially reasonable terms, or at all, which may delay the development and commercialization of our product candidates.

There are a limited number of suppliers for raw materials that we use to manufacture our drugs and there may be a need to assess alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our clinical trials, and if approved, ultimately for commercial sale. We do not have any control over the process or timing of the acquisition of these raw materials by us. We typically do not have any agreements for the commercial production of these raw materials. Any significant delay in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to obtain or replace a third-party manufacturer could considerably delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates. If we are unable to purchase these raw materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates.

We may not be able to manufacture our products or product candidates in commercial quantities, which would prevent us from commercializing our products and product candidates.

We are largely dependent on our third-party manufacturers to conduct process development and scale-up work necessary to support greater clinical development and commercialization requirements for our products and product candidates. Carrying out these activities in a timely manner, and on commercially reasonable terms, is critical to the successful development and commercialization of our products and product candidates. We expect our third-party manufacturers are capable of providing sufficient quantities of our products and product candidates to meet anticipated clinical and full-scale commercial demands, however if third parties with whom we currently work are unable to meet our supply requirements, we will need to secure alternate suppliers or face potential delays or shortages. While we believe that there are other contract manufacturers with the technical capabilities to manufacture our products and product candidates, we cannot be certain that identifying and establishing relationships with such sources would not result in significant delay or material additional costs.

The complexities and regulations related to our manufacturing and development services businesses subject us to potential risks.

Through certain subsidiaries, we offer development (*e.g.*, conjugation) and manufacturing services that are highly complex, due in part to strict regulatory requirements. A failure of our quality control systems in our facilities could cause problems to arise in connection with facility operations for a variety of reasons, including equipment malfunction, contamination, failure to follow specific manufacturing instructions, protocols and standard operating procedures, problems with raw materials or environmental factors. Such problems could affect production of a single manufacturing run or a series of runs, requiring the destruction of products, or could halt manufacturing operations altogether. In addition, our failure to meet required quality standards may result in our failure to timely deliver products to our customers, which in turn could damage our reputation for quality and service. Any such incident could, among other things, lead to increased costs, lost revenue, reimbursement to customers for lost drug substance, damage to and possibly termination of existing customer relationships, time and expense spent investigating the cause and, depending on the cause, similar losses with respect to other manufacturing runs. With respect to our commercial manufacturing, if problems are not discovered before the product is released to the market, we may be subject to regulatory actions, including product recalls, product seizures, injunctions to halt manufacture and distribution, restrictions on our operations, civil sanctions, including monetary sanctions, and criminal actions. In addition, such issues could subject us to litigation and/or liability for damages, the cost of which could be significant.

Regulatory agencies may periodically inspect our manufacturing facilities to ensure compliance with applicable legal, regulatory and local requirements, such as cGMP requirements. Failure to comply with these requirements may subject us to possible legal or regulatory actions, such as suspension of manufacturing, seizure of product or voluntary recall of a product.

If we do not successfully commercialize our products, our business, financial condition and results of operations will be materially and adversely affected

With the exception of Scilex (which commercially launched ZTlido® (lidocaine topical system 1.8%) in late October 2018, using a contract sales organization to conduct its primary sales activities), we currently have no sales and marketing organization. If any of our product candidates are approved by the FDA, we intend to market that product through our own sales force. We will incur significant additional expenses and commit significant additional management resources to establish our sales force. We may not be able to establish these capabilities despite these additional expenditures. We will also have to compete with other pharmaceutical and biotechnology companies to recruit, hire and train sales and marketing personnel. If we elect to rely on third parties to sell our product candidates in the U.S., we may receive less revenue than if we sold our products directly. In addition, although we would intend to use due diligence in monitoring their activities, we may have little or no control over the sales efforts of those third parties. In the event we are unable to develop our own sales force or collaborate with a third party to sell our product candidates, we may not be able to commercialize our product candidates which would negatively impact our ability to generate revenue.

Specifically relating to Scilex, Scilex has a limited internal commercial infrastructure (with most of the sales organization provided by a third party, contract sales organization)and since ZTlido® (lidocaine topical system 1.8%) only recently launched in late October 2018, Scilex has limited experience in the commercialization, sale, marketing or distribution of pharmaceutical products, like ZTlido® (lidocaine topical system 1.8%). Scilex's commercialization efforts for ZTlido® (lidocaine topical system 1.8%) have been primarily focused in the United States. Commercialization of ZTlido® (lidocaine topical system 1.8%) and other future product candidates outside of the United States, to the extent pursued, is likely to require collaboration with one or more third parties.

In late October 2018, Scilex began commercial sales of ZTlido® (lidocaine topical system 1.8%). In addition to the risks discussed elsewhere in this section, Scilex's ability to successfully commercialize and generate revenues from ZTlido® (lidocaine topical system 1.8%) depends on a number of factors, including, but not limited to, Scilex's ability to:

- develop and execute our sales and marketing strategies for Scilex's products;
- achieve, maintain and grow market acceptance of, and demand for, Scilex's products;
- obtain and maintain adequate coverage, reimbursement and pricing from managed care, government and other third-party payers;
- maintain, manage or scale the necessary sales, marketing, manufacturing, managed markets, and other capabilities and infrastructure that are required to successfully integrate and commercialize our products;
- obtain adequate supply of Scilex's products;
- maintain and extend intellectual property protection for Scilex's products; and
- comply with applicable legal and regulatory requirements.

If Scilex is unable to successfully achieve or perform these functions, Scilex will not be able to maintain or increase its product revenues and our business, financial condition and results of operations will be materially and adversely affected.

We may need others to market and commercialize our product candidates in international markets.

In the future, if appropriate regulatory approvals are obtained, we may commercialize our product candidates in international markets. However, we have not decided how to commercialize our product candidates in those markets. We may decide to build our own sales force or sell our products through third parties. If we decide to sell our product candidates in international markets through a third party, we may not be able to enter into any marketing arrangements on favorable terms or at all. In addition, these arrangements could result in lower levels of income to us than if we marketed our product candidates entirely on our own. If we are unable to enter into a marketing arrangement for our product candidates in international markets, we may not be able to develop an effective international sales force to successfully commercialize those products in international markets. If we fail to enter into marketing arrangements for our products and are unable to develop an effective international sales force, our ability to generate revenue would be limited.

With respect to ZTlido® (lidocaine topical system 1.8%) and any of our product candidates for which we may receive regulatory approvals, we will be subject to ongoing obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.

Our FDA approval for ZTlido® (lidocaine topical system 1.8%) and any other regulatory approvals that we may receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase IV clinical trials, and surveillance to monitor the safety and efficacy of the product candidate. In addition, if the FDA or a comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and cGCPs for any clinical trials that we conduct post-approval. The future 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;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us, or suspension or revocation of product license approvals;
- 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 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.

We will need to obtain FDA approval of any proposed product brand names, and any failure or delay associated with such approval may adversely impact our business.

A pharmaceutical product cannot be marketed in the U.S. or other countries until we have completed rigorous and extensive regulatory review processes, including approval of a brand name. Any brand names we intend to use for our product candidates will require approval from the FDA regardless of whether we have secured a formal trademark registration from the U.S. Patent and Trademark Office (the "PTO"). The FDA typically conducts a review of proposed product brand names, including an evaluation of potential for confusion with other product names. The FDA may also object to a product brand name if it believes the name inappropriately implies medical claims. If the FDA objects to any of our proposed product brand names, we may be required to adopt an alternative brand name for our product candidates. If we adopt an alternative brand name, we would lose the benefit of our existing trademark applications for such product candidate and may be required to expend significant additional resources in an effort to identify a suitable product brand name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. We may be unable to build a successful brand identity for a new trademark in a timely manner or at all, which would limit our ability to commercialize our product candidates.

Our failure to successfully discover, acquire, develop and market additional product candidates or approved products would impair our ability to grow.

As part of our growth strategy, we intend to develop and market additional products and product candidates. We are pursuing various therapeutic opportunities through our product pipeline. We may spend several years completing our development of any particular current or future internal product candidate, and failure can occur at any stage. The product candidates to which we allocate our resources may not end up being successful. In addition, because our internal research capabilities are limited, we may be dependent upon pharmaceutical and biotechnology companies, academic scientists and other researchers to sell or license products or technology to us. The success of this strategy depends partly upon our ability to identify, select, discover and acquire promising pharmaceutical product candidates and products. Failure of this strategy would impair our ability to grow.

The process of proposing, negotiating and implementing a license or acquisition of a product candidate or approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing and sales resources, may compete with us for the license or acquisition of product candidates and approved products. We have limited resources to identify and execute the acquisition or in-licensing of third-party products, businesses and technologies and integrate them into our current infrastructure. Moreover, we may devote resources to potential acquisitions or in-licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. We may not be able to acquire the rights to additional product candidates on terms that we find acceptable, or at all.

In addition, future acquisitions may entail numerous operational and financial risks, including:

- disruption of our business and diversion of our management's time and attention to develop acquired products or technologies;
- incurrence of substantial debt, dilutive issuances of securities or depletion of cash to pay for acquisitions;
- higher than expected acquisition and integration costs;
- difficulty in combining the operations and personnel of any acquired businesses with our operations and personnel;
- increased amortization expenses;
- impairment of relationships with key suppliers or customers of any acquired businesses due to changes in management and ownership;
- impairment of our ability to obtain intellectual property rights or rights to commercialize additional product candidates, or increased cost to obtain such rights;
- inability to motivate key employees of any acquired businesses; and
- assumption of known and unknown liabilities.

Further, any product candidate that we acquire may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities.

Our commercial success depends upon us attaining significant market acceptance of our product candidates, if approved for sale, among physicians, patients, healthcare payors and major operators of cancer and other clinics.

Even if we obtain regulatory approval for our product candidates, the product may not gain market acceptance among physicians, health care payors, patients and the medical community, which are critical to commercial success. Market acceptance of any product candidate for which we receive approval depends on a number of factors, including:

- the efficacy and safety as demonstrated in clinical trials;
- the timing of market introduction of such product candidate as well as competitive products;
- the clinical indications for which the drug is approved;
- acceptance by physicians, major operators of cancer clinics and patients of the drug as a safe and effective treatment;
- the safety of such product candidate seen in a broader patient group, including its use outside the approved indications;
- the availability, cost and potential advantages of alternative treatments, including less expensive generic drugs;
- the availability of adequate reimbursement and pricing by third-party payors and government authorities;
- the product labeling or product insert required by the FDA or regulatory authority in other countries;
- the approval, availability, market acceptance and reimbursement for a companion diagnostic, if any;
- the prevalence and severity of adverse side effects; and
- the effectiveness of our sales and marketing efforts.

If any product candidate that we develop does not provide a treatment regimen that is as beneficial as, or is perceived as being as beneficial as, the current standard of care or otherwise does not provide patient benefit, that product candidate, if approved for commercial sale by the FDA or other regulatory authorities, likely will not achieve market acceptance. Our ability to effectively promote and sell any approved products will also depend on pricing and cost-effectiveness, including our ability to produce a product at a competitive price and our ability to obtain sufficient third-party coverage or reimbursement. If any product candidate is approved but does not achieve an adequate level of acceptance by physicians, patients and third-party payors, our ability to generate revenues from that product would be substantially reduced. In addition, our efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources, may be constrained by FDA rules and policies on product promotion, and may never be successful.

If we cannot compete successfully against other biotechnology and pharmaceutical companies, we may not be successful in developing and commercializing our technology and our business will suffer.

The biotechnology and pharmaceutical industries are characterized by intense competition and rapid technological advances, both in the U.S. and internationally. In addition, the competition in the oncology and pain management markets, and other relevant markets, is intense. Even if we are able to develop our product candidates, proprietary platform technology and/or additional antibody libraries, each will compete with a number of existing and future technologies and product candidates developed, manufactured and marketed by others. Specifically, we will compete against fully integrated pharmaceutical companies and smaller companies that are collaborating with larger pharmaceutical companies, academic institutions, government agencies and other public and private research organizations. Many of these competitors have validated technologies with products already FDA-approved or in various stages of development. In addition, many of these competitors, either alone or together with their collaborative partners, operate larger research and development programs and have substantially greater financial resources than we do, as well as significantly greater experience in:

- developing product candidates and technologies generally;
- undertaking preclinical testing and clinical trials;
- obtaining FDA and other regulatory approvals of product candidates;
- formulating and manufacturing product candidates; and
- launching, marketing and selling product candidates.

Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations. Additional mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. As a result, these companies may obtain regulatory approval more rapidly than we are able and may be more effective in selling and marketing their products as well. Smaller or early-stage companies or generic or biosimilar pharmaceutical manufacturers may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing on an exclusive basis drug products that are more effective or less costly than any drug candidate that we are currently developing or that we may develop. If approved, our product candidates will face competition from commercially available drugs as well as drugs that are in the development pipelines of our competitors and later enter the market.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make our product candidates less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA, the MHRA, the EMA or other regulatory approval or discovering, developing and commercializing medicines before we do, which would have a material adverse impact on our business. If our technologies fail to compete effectively against third party technologies, our business will be adversely impacted.

We expect that our ability to compete effectively will depend upon our ability to:

- successfully and efficiently complete clinical trials and submit for and obtain all requisite regulatory approvals in a cost-effective manner;
- obtain and maintain a proprietary position for our products and manufacturing processes and other related product technology;
- attract and retain key personnel;
- develop relationships with physicians prescribing these products; and
- build an adequate sales and marketing infrastructure for our product candidates.

Because we will be competing against significantly larger companies with established track records, we will have to demonstrate that, based on experience, clinical data, side-effect profiles and other factors, our product candidates, if approved, are competitive with other products.

Reimbursement may be limited or unavailable in certain market segments for our product candidates, which could make it difficult for us to sell our products profitably.

There is significant uncertainty related to the third-party coverage and reimbursement of newly approved drugs. We intend to seek approval to market our product candidates in the U.S., Europe and other selected foreign jurisdictions. Market acceptance and sales of our product candidates in both domestic and international markets will depend significantly on the availability of adequate coverage and reimbursement from third-party payors for any of our product candidates and may be affected by existing and future health care reform measures. Government and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for new drugs and, as a result, they may not cover or provide adequate payment for our product candidates. These payors may conclude that our product candidates are less safe, less effective or less cost-effective than existing or future introduced products, and third-party payors may not approve our product candidates for coverage and reimbursement or may cease providing coverage and reimbursement for these product candidates.

Obtaining coverage and reimbursement approval for a product from a government or other third-party payor is a time consuming and costly process that could require us to provide to the payor supporting scientific, clinical and cost-effectiveness data for the use of our products. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. If reimbursement of our future products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, we may be unable to achieve or sustain profitability.

In some foreign countries, particularly in the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product candidate. To obtain reimbursement or pricing approval in some countries, we may be required to conduct additional clinical trials that compare the cost-effectiveness of our product candidates to other available therapies. If reimbursement of our product candidates is unavailable or limited in scope or amount in a particular country, or if pricing is set at unsatisfactory levels, we may be unable to achieve or sustain profitability of our products in such country.

Healthcare reform measures could hinder or prevent our product candidates' commercial success.

In both the U.S. and certain foreign jurisdictions, there have been, and we expect there will continue to be a number of legislative and regulatory changes to the health care system that could impact our ability to sell our products profitably. The U.S. government and other governments have shown significant interest in pursuing healthcare reform. In particular, the Medicare Modernization Act of 2003 revised the payment methodology for many products under the Medicare program in the U.S. This has resulted in lower rates of reimbursement. In 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "Healthcare Reform Law"), was enacted. The Healthcare Reform Law substantially changed the way healthcare is financed by both governmental and private insurers. Such

government-adopted reform measures may adversely impact the pricing of healthcare products and services in the U.S. or internationally and the amount of reimbursement available from governmental agencies or other third-party payors.

There have been, and likely will continue to be, legislative and regulatory proposals at the federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. For example, there have been recent public announcements by members of the U.S. Congress, President Trump and his administration regarding their plans to repeal and replace the Healthcare Reform Law and Medicare. Although we cannot predict the ultimate content or timing of any healthcare reform legislation, potential changes resulting from any amendment, repeal or replacement of these programs, including any reduction in the future availability of healthcare insurance benefits, could adversely affect our business and future results of operations. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect the demand for any drug products for which we may obtain regulatory approval, as well as our ability to set satisfactory prices for our products, to generate revenues, and to achieve and maintain profitability.

Failure to successfully validate, develop and obtain regulatory approval for companion diagnostics could harm our long-term drug development strategy.

As one of the key elements of our clinical development strategy, we seek to identify patients within a disease category or indication who may derive selective and meaningful benefit from the product candidates we are developing. In collaboration with partners, we plan to develop companion diagnostics to help us to more accurately identify patients within a particular category or indication, both during our clinical trials and in connection with the commercialization of certain of our product candidates. Companion diagnostics are subject to regulation by the FDA and comparable foreign regulatory authorities as medical devices and require separate regulatory approval prior to commercialization. We typically do not develop companion diagnostics internally and thus we are dependent on the sustained cooperation and effort of our third-party collaborators in developing and obtaining approval for these companion diagnostics. We and our 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. Any delay or failure by our collaborators to develop or obtain regulatory approval of the companion diagnostics could delay or prevent approval of our product candidates. In addition, our collaborators may encounter production difficulties that could constrain the supply of the companion diagnostics, and both they and we may have difficulties gaining acceptance of the use of the companion diagnostics in the clinical community. If such companion diagnostics fail to gain market acceptance, it would have an adverse effect on our ability to derive revenues from sales of our products. In addition, any diagnostic company with whom we contract may decide to discontinue selling or manufacturing the companion diagnostic that we anticipate using in connection with development and commercialization of our product candidates or our relationship with such diagnostic company may otherwise terminate. In such instances, 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 product candidates.

Our collaborations depend upon the efforts of third parties to fund and manage the development of many of our potential product candidates, and failure of those third-party collaborators to assist or share in the costs of product development could materially harm our business, financial condition and results of operations.

Our strategy for the development and commercialization of our proprietary product candidates has included the formation of joint ventures and collaborative arrangements with third parties. Potential third parties include biopharmaceutical, pharmaceutical and biotechnology companies, academic institutions and other entities. Third-party collaborators may assist us in:

- funding research, preclinical development, clinical trials and manufacturing;
- seeking and obtaining regulatory approvals;
- seeking and obtaining intellectual property and/or other proprietary rights to technology; and
- successfully commercializing any future product candidates.

Our collaborations limit our ability to control the efforts devoted to many of our product candidates in such arrangements and our earlier stage pipeline is dependent upon identifying new potential collaborators. For example, our most recent joint ventures require us to conduct research and provide potential product candidates in addition to making capital contributions to continue the further development of those products. We generally do not have control over the management of the joint ventures and are minority holders in most of those ventures, which may result in limitations on our ability to successfully develop product candidates, obtain intellectual property and/or other proprietary rights and fund clinical trials through those joint ventures.

In addition, if we are not able to establish further collaboration agreements, we may be required to undertake product development and commercialization at our own expense. Such an undertaking may limit the number of product candidates that we will be able to develop, significantly increase our capital requirements and place additional strain on our internal resources.

Our failure to enter into additional collaborations could materially harm our business, financial condition and results of operations.

In addition, our dependence on licensing, collaboration and other agreements with third parties may subject us to a number of risks. These agreements may not be on terms that prove favorable to us and may require us to relinquish certain rights in our product candidates. To the extent we agree to work exclusively with one collaborator in a given area, our opportunities to collaborate with other entities could be curtailed. Lengthy negotiations with potential new collaborators may lead to delays in the research, development or commercialization of product candidates. The decision by our collaborators to pursue alternative technologies or the failure of our collaborators to develop or commercialize successfully any product candidate to which they have obtained rights from us could materially harm our business, financial condition and results of operations.

Because our development activities are expected to rely heavily on sensitive and personal information, an area which is highly regulated by privacy laws, we may not be able to generate, maintain or access essential patient samples or data to continue our research and development efforts in the future on reasonable terms and conditions, which may adversely affect our business.

Although we are not subject to the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), as we are neither a Covered Entity nor Business Associate (as defined in HIPAA and the Health Information Technology and Clinical Health Act (the “HITECH Act”)), we may have access to very sensitive data regarding patients whose tissue samples are used in our studies. This data will contain information that is personal in nature. The maintenance of this data is subject to certain privacy-related laws, which impose upon us administrative and financial burdens, and litigation risks. In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws and federal and state consumer protection laws govern the collection, use, disclosure and protection of health-related and other personal information. For instance, the rules promulgated by the Department of Health and Human Services under HIPAA create national standards to protect patients’ medical records and other personal information in the U.S. These rules require that healthcare providers and other covered entities obtain written authorizations from patients prior to disclosing protected health care information of the patient to companies. If the patient fails to execute an authorization or the authorization fails to contain all required provisions, then we will not be allowed access to the patient’s information and our research efforts can be substantially delayed. Furthermore, use of protected health information that is provided to us pursuant to a valid patient authorization is subject to the limits set forth in the authorization (i.e., for use in research and in submissions to regulatory authorities for product approvals). As such, we are required to implement policies, procedures and reasonable and appropriate security measures to protect individually identifiable health information we receive from covered entities, and to ensure such information is used only as authorized by the patient. Any violations of these rules by us could subject us to civil and criminal penalties and adverse publicity and could harm our ability to initiate and complete clinical trials required to support regulatory applications for our product candidates. In addition, HIPAA does not replace federal, state, or other laws that may grant individuals even greater privacy protections.

International data protection laws and regulations may also apply to some or all of our clinical data obtained outside of the U.S. For example, in April 2016, the EU approved a new data protection regulation, known as the General Data Protection Regulation (the “GDPR”), which became effective in May 2018. The GDPR includes new operational requirements for companies that receive or process personal data of EU residents, as well as significant penalties for non-compliance. Complying with the GDPR may cause us to incur substantial operational costs or require us to change our business practices.

Failure to comply with data protection laws and regulations could result in government enforcement actions, which may involve civil and criminal penalties, private litigation and/or adverse publicity and could negatively affect our operating results and business. Claims that we have violated individuals' privacy rights or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business.

We can provide no assurance that future legislation will not prevent us from generating or maintaining personal data or that patients will consent to the use of their personal information, either of which may prevent us from undertaking or publishing essential research. These burdens or risks may prove too great for us to reasonably bear and may adversely affect our ability to achieve profitability or maintain profitably in the future.

Our therapeutic product candidates for which we intend to seek approval as biological products may face competition sooner than expected.

With the enactment of the Biologics Price Competition and Innovation Act of 2009 ("BPCIA") as part of the Health Care Reform Law, an abbreviated pathway for the approval of biosimilar and interchangeable biological products was created. The new abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable." The FDA defines an interchangeable biosimilar as a product that, in terms of safety or diminished efficacy, presents no greater risk when switching between the biosimilar and its reference product than the risk of using the reference product alone. Under the BPCIA, an application for a biosimilar product cannot be submitted to the FDA until four years, or approved by the FDA until 12 years, after the original brand product identified as the reference product was approved under a BLA. The new law is complex and is only beginning to be interpreted by the FDA. As a result, its ultimate impact, implementation and meaning are subject to uncertainty. While it is uncertain when any such processes may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our biological products.

Although we believe that if any of our product candidates were to be approved as biological products under a BLA, such approved products should qualify for the 12-year period of exclusivity, there is a risk that the U.S. Congress could amend the BPCIA to significantly shorten this exclusivity period, potentially creating the opportunity for generic competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. In addition, a competitor could decide to forego the biosimilar route and submit a full BLA after completing its own preclinical studies and clinical trials. In such cases, any exclusivity to which we may be eligible under the BPCIA would not prevent the competitor from marketing its product as soon as it is approved.

The regulatory path forward for biosimilar/biobetter product candidates is not clear.

We have acquired and are assessing the regulatory and strategic path forward for our portfolio of late stage biosimilar/biobetter antibodies based on Erbitux®, Remicade®, Xolair® and Simulect®. While the enactment of the BPCIA created an abbreviated pathway for the approval of biosimilar and interchangeable biological products, there is still considerable uncertainty with respect to the FDA's approval process. While applications based on biosimilarity may not be required to duplicate the entirety of preclinical and clinical testing used to establish the underlying safety and effectiveness of the reference product, the FDA may refuse to approve an application if there is insufficient information to show that the active ingredients are the same or to demonstrate that any impurities or differences in active ingredients do not affect the safety, purity or potency of the product. In addition, applications based on biosimilarity will not be approved unless the product is manufactured in facilities designed to assure and preserve the biological product's safety, purity and potency. Due to the uncertainty surrounding the approval of biosimilar/biobetter products, as well as other risk factors identified in this Form 10-K, our portfolio of late stage biosimilar/biobetter antibodies may never result in commercially viable products.

We may be exposed to liability claims associated with the use of hazardous materials and chemicals.

Our research and development activities may involve the controlled use of hazardous materials and chemicals. Although we believe that our safety procedures for using, storing, handling and disposing of these materials comply with federal, state and local laws and regulations, we cannot eliminate the risk of accidental injury or contamination from these materials. In the event of such an accident, we could be held liable for any resulting damages and any liability could materially adversely affect our business, financial condition and results of operations. We do not currently maintain hazardous materials insurance coverage. In addition, the federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of hazardous or radioactive materials and waste products may require us to incur substantial compliance costs that could materially harm our business.

If we are unable to retain and recruit qualified scientists and advisors, or if any of our key executives, key employees or key consultants discontinues his or her employment or consulting relationship with us, it may delay our development efforts or otherwise harm our business.

We may not be able to attract or retain qualified management and scientific and clinical personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses, particularly in the San Diego, California area. Our industry has experienced a high rate of turnover of management personnel in recent years. If we are not able to attract, retain and motivate necessary personnel to accomplish our business objectives, we may experience

constraints that will significantly impede the successful development of any product candidates, our ability to raise additional capital and our ability to implement our overall business strategy.

We are highly dependent on key members of our management and scientific staff, especially Henry Ji, Ph.D., Chief Executive Officer and President, and Jiong Shao, Executive Vice President and Chief Financial Officer. 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. The loss of any of our executive officers, key employees or key consultants and our inability to find suitable replacements could impede the achievement of our research and development objectives, and potentially harm our business, financial condition and prospects. Furthermore, recruiting and retaining qualified scientific personnel to perform research and development work in the future is critical to our success. We may be unable to attract and retain personnel on acceptable terms given the competition among biotechnology, biopharmaceutical and health care companies, universities and non-profit research institutions for experienced scientists. Certain of our current officers, directors, scientific advisors and/or consultants or certain of the officers, directors, scientific advisors and/or consultants hereafter appointed may from time to time serve as officers, directors, scientific advisors and/or consultants of other biopharmaceutical or biotechnology companies. We do not maintain “key man” insurance policies on any of our officers or employees. All of our employees are employed “at will” and, therefore, each employee may leave our employment at any time.

We may not be able to attract or retain qualified management and scientific personnel in the future due to the intense competition for a limited number of qualified personnel among biopharmaceutical, biotechnology, pharmaceutical and other businesses. Many of the other pharmaceutical companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high quality candidates than what we have to offer. If we are unable to continue to attract and retain high quality personnel, the rate and success at which we can develop and commercialize product candidates will be limited.

We plan to grant stock options or other forms of equity awards in the future as a method of attracting and retaining employees, motivating performance and aligning the interests of employees with those of our stockholders. If we are unable to implement and maintain equity compensation arrangements that provide sufficient incentives, we may be unable to retain our existing employees and attract additional qualified candidates. If we are unable to retain our existing employees, including qualified scientific personnel, and attract additional qualified candidates, our business and results of operations could be adversely affected.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we have established, comply with federal and state health-care fraud and abuse laws and regulations, comply with laws and regulations (including, but not limited to the Foreign Corrupt Practices Act of 1977, as amended, 15 U.S.C. §§ 78dd-1 (“FCPA”)) and internal policies restricting payments to government agencies and representatives, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a Code of Business Conduct and Ethics, but it is not always possible to identify and deter employee misconduct, 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 be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant fines or other sanctions.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

If we obtain FDA approval for any of our product candidates, as we have with ZTlido® (lidocaine topical system 1.8%) through our subsidiary, Scilex, and begin commercializing those products in the U.S., our operations may be directly, or indirectly through our customers, subject to various federal and state fraud and abuse laws, including, without limitation, the

federal Anti-Kickback Statute and the federal False Claims Act. These laws may impact, among other things, our proposed sales, marketing and education programs. In addition, we may be subject to patient privacy regulation by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, to induce, or in return for, the purchase or recommendation of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;

- federal civil and criminal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payers that are false or fraudulent;

- HIPAA, which created new federal criminal statutes that prohibit executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters;

- HIPAA, as amended by the HITECH Act, and its implementing regulations, which imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payer, including commercial insurers, and state 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.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines 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 product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk for the commercialization of any products, including ZTlido® (lidocaine topical system 1.8%), which is marketed and sold through our subsidiary, Scilex. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability, and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates, if approved. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates or products that we may develop;
- injury to our reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market or voluntary or mandatory product recalls;
- costs to defend the related litigation;
- a diversion of management’s time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenues from product sales; and
- the inability to commercialize our product candidates.

Our inability to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop.

We are subject to the U.S. Foreign Corrupt Practices Act and other anti-corruption laws, as well as export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures, and legal expenses, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to certain anti-corruption laws, including the FCPA, and other anti-corruption laws that apply in countries where we do business. The FCPA and other anti-corruption laws generally prohibit us and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. We and our commercial partners operate in a number of jurisdictions that pose a high risk of potential FCPA violations and we participate in collaborations and relationships with third parties whose actions could potentially subject us to liability under the FCPA or local anti-corruption laws. 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 in the U.S. and in the EU, including applicable import and export control regulations such as those regulations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora, also known as the Washington Convention ("CITES"), economic sanctions on countries and persons, customs requirements and currency exchange regulations (collectively, "Trade Control Laws").

There can be no assurance that we will be completely effective in ensuring our compliance with all applicable anticorruption laws, including the FCPA or other legal requirements, such as Trade Control Laws. Any investigation of potential violations of the FCPA, other anti-corruption laws or Trade Control Laws by U.S., EU or other authorities could have an adverse impact on our reputation, our business, results of operations and financial condition. Furthermore, should we be found not to be in compliance with the FCPA, other anti-corruption laws or Trade Control Laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, as well as the accompanying legal expenses, any of which could have a material adverse effect on our reputation and liquidity, as well as on our business, results of operations and financial condition.

We will need to increase the size of our company and may not effectively manage our growth.

Our success will depend upon growing our business and our employee base. Over the next 12 months, we plan to add additional employees to assist us with research and development and in Scilex with commercialization efforts. Our future growth, if any, may cause a significant strain on our management, and our operational, financial and other resources. Our ability to manage our growth effectively will require us to implement and improve our operational, financial and management systems and to expand, train, manage and motivate our employees. These demands may require the hiring of additional management personnel and the development of additional expertise by management. Any increase in resources devoted to research and product development without a corresponding increase in our operational, financial and management systems could have a material adverse effect on our business, financial condition, and results of operations.

Drug development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results.

Clinical testing is expensive and can take many years to complete, and its outcome is risky and uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. It is not uncommon for companies in the pharmaceutical industry to suffer significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Our future clinical trial results may not be successful.

This drug candidate development risk is heightened by any changes in the planned clinical trials compared to the completed clinical trials. As product candidates are developed through preclinical to early and late stage clinical trials towards approval and commercialization, it is customary that various aspects of the development program, such as manufacturing and methods of administration, are altered along the way in an effort to optimize processes and results. While these types of

changes are common and are intended to optimize the product candidates for late stage clinical trials, approval and commercialization, such changes do carry the risk that they will not achieve these intended objectives.

Other than with respect to ZTlido® (lidocaine topical system 1.8%), we have not completed a corporate-sponsored clinical trial. Phase I trials are ongoing for RTX for knee osteoarthritis, RTX for cancer-related pain, anti-CD38 CAR-T for multiple myeloma and anti-CEA CAR-T for intrahepatic CEA positive metastases and for intraperitoneal tumor implantation (malignant ascites). Despite this, we may not have the necessary capabilities, including adequate staffing, to successfully manage the execution and completion of any clinical trials we initiate, including our planned clinical trials of RTX, clinical trials of CAR-T including targeting CD38 using a CAR-T cell therapy, our biosimilar/biobetters antibodies and other product candidates, in a way that leads to our obtaining marketing approval for our product candidates in a timely manner, or at all.

In the event we are able to conduct a pivotal clinical trial of a product candidate, the results of such trial may not be adequate to support marketing approval. Because our product candidates are intended for use in life-threatening diseases, in some cases we ultimately intend to seek marketing approval for each product candidate based on the results of a single pivotal clinical trial. As a result, these trials may receive enhanced scrutiny from the FDA. For any such pivotal trial, if the FDA disagrees with our choice of primary endpoint or the results for the primary endpoint are not robust or significant relative to control, are subject to confounding factors, or are not adequately supported by other study endpoints, including possibly overall survival or complete response rate, the FDA may refuse to approve a New Drug Application, Biologics License Application or other application for marketing based on such pivotal trial. The FDA may require additional clinical trials as a condition for approving our product candidates.

Any disruption in our research and development facilities could adversely affect our business, financial condition and results of operations.

Our principal executive offices, which house our research and development programs, are in San Diego, California. Our facilities may be affected by natural or man-made disasters. Earthquakes are of particular significance since our facilities are located in an earthquake-prone area. We are also vulnerable to damage from other types of disasters, including power loss, attacks from extremist organizations, fires, floods and similar events. If our facilities are affected by a natural or man-made disaster, we may be forced to curtail our operations and/or rely on third-parties to perform some or all of our research and development activities. Although we believe we possess adequate insurance for damage to our property and the disruption of our business from casualties, such insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, or at all. In the future, we may choose to expand our operations in either our existing facilities or in new facilities. If we expand our worldwide manufacturing locations, there can be no assurance that this expansion will occur without implementation difficulties, or at all.

Our business and operations would suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, cybersecurity attacks or hacking, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such 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 material disruption of our drug development programs. For example, the loss of clinical trial data from completed or ongoing or planned 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 was to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur material legal claims and liability, damage to our reputation, suffer loss or harm to our intellectual property rights and the further research, development and commercial efforts of our products and product candidates could be delayed. If we are held liable for a claim against which we are not insured or for damages exceeding the limits of our insurance coverage, whether arising out of cybersecurity matters, or from some other matter, that claim could have a material adverse effect on our results of operations.

Further, a cybersecurity attack, data breach or privacy violation that leads to disclosure or modification of, or prevents access to, patient information, including personally identifiable information or protected health information, could harm our reputation, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, require us to verify the correctness of database contents and otherwise subject us to liability under laws and regulations that protect personal data, resulting in increased costs or loss of revenue. Our ability to effectively manage and maintain our internal business information, and to ship products to customers and invoice them on a timely basis, depends significantly on our enterprise resource planning system and other information systems. Portions of our information technology systems may experience interruptions, delays or cessations of service or produce errors in connection with ongoing systems

implementation work. Cybersecurity attacks in particular are evolving and include, but are not limited to, threats, malicious software, ransom ware, attempts to gain unauthorized access to data and other electronic security breaches that could lead to disruptions in systems, misappropriation of confidential or otherwise protected information and corruption of data. If we are unable to prevent such cybersecurity attacks, data security breaches or privacy violations or implement satisfactory remedial measures, our operations could be disrupted, and we may suffer loss of reputation, financial loss and other regulatory penalties because of lost or misappropriated information, including sensitive patient data. In addition, these breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above.

The terms of our outstanding convertible promissory notes place restrictions on our operating and financial flexibility. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business.

On June 13, 2018, we issued and sold convertible promissory notes in an aggregate principal amount of $37.8 million (the "Convertible Notes") to certain accredited investors pursuant to a Securities Purchase Agreement, as amended (the "Securities Purchase Agreement"). The Convertible Notes accrue interest at a rate equal to 5.0% per annum and mature upon the earlier to occur of June 13, 2023 and the date of the closing of a change of control (the "Maturity Date"). At any time and from time to time before the Maturity Date, the holders of the Convertible Notes have the option to convert any portion of the outstanding principal amount of the Convertible Notes that is equal to or greater than the lesser of: (1) $4,000,000, and (2) the then-outstanding principal amount of the Convertible Note being converted into shares of common stock at a price per share of $7.0125, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions. Any conversion of the Convertible Notes could result in material dilution to our existing stockholders. Accrued but unpaid interest on the Convertible Notes shall be paid in cash semi-annually in arrears on or prior to the 30th day of June and 31st day of December of each calendar year commencing with the year ended December 31, 2018. If a holder elects to convert any of the principal amount of their Convertible Note, then all accrued but unpaid interest on such portion of the principal amount shall become due and payable in cash. The Securities Purchase Agreement and the Convertible Notes contain customary restrictive covenants, which will remain in effect so long as the aggregate outstanding principal amount of the Convertible Notes is at least $18.8 million, including significant limitations on incurring additional indebtedness, liens, declaring cash dividends or making cash distributions and dispositions of our assets, in each case subject to customary exceptions. The breach of such covenants or the occurrence of certain other events would result in the occurrence of an event of default. Upon the occurrence of an event of default and following any applicable cure periods, the interest rate under the Convertible Notes will automatically increase to 12.0% per annum, effective until the day after such default is cured, and the holders of the Convertible Notes may declare all outstanding obligations immediately due and payable and take such other actions as set forth in the Convertible Notes, potentially requiring us to renegotiate our agreement on terms less favorable to us or to immediately cease operations. Any declaration by the holders of the Convertible Notes of an event of default could significantly harm our business and prospects and could cause the price of our common stock to decline.

On September 7, 2018, Scilex issued and sold senior secured notes due 2026 in an aggregate principal amount of $224,000,000 (the "Scilex Notes") for an aggregate purchase price of $140,000,000 (the "Scilex Offering"). In connection with the Scilex Offering, we also entered into an indenture (the "Scilex Indenture") governing the Scilex Notes with U.S. Bank National Association, a national banking association, as trustee (the "Trustee") and collateral agent, and Scilex. Pursuant to the Scilex Indenture, we agreed to irrevocably and unconditionally guarantee, on a senior unsecured basis, the punctual performance and payment when due of all obligations of Scilex under the Scilex Indenture.

The Scilex Indenture governing the Scilex Notes contains customary events of default with respect to the Scilex Notes (including a failure to make any payment of principal on the Scilex Notes when due and payable), and, upon certain events of default occurring and continuing, the Trustee by notice to Scilex, or the holders of at least 25% in principal amount of the outstanding Scilex Notes by notice to Scilex and the Trustee, may (subject to the provisions of the Scilex Indenture) declare 100% of the then-outstanding principal amount of the Scilex Notes to be due and payable. Upon such a declaration of acceleration, such principal will be due and payable immediately. In the case of certain events, including bankruptcy, insolvency or reorganization involving us or Scilex, the Scilex Notes will automatically become due and payable.

Pursuant to the Scilex Indenture, we and Scilex must also comply with certain covenants with respect to the commercialization of ZTlido® (lidocaine topical system 1.8%), as well as customary additional affirmative covenants, such as furnishing financial statements to the holders of the Scilex Notes, minimum cash requirements and net sales reports, and negative covenants, including limitations on the following: the incurrence of debt, the payment of dividends, the repurchase of shares and, under certain conditions, making certain other restricted payments, the prepayment, redemption or repurchase of subordinated debt, a merger, amalgamation or consolidation involving Scilex, engaging in certain transactions with affiliates; and the making of investments other than those permitted by the Scilex Indenture.

On November 7, 2018, we and certain of our domestic subsidiaries (the "Guarantors") entered into a Term Loan Agreement (the "Loan Agreement") with certain funds and accounts managed by Oaktree Capital Management, L.P. (collectively, the "Lenders") and Oaktree Fund Administration, LLC, as administrative and collateral agent, for an initial term loan of $100.0 million (the "Initial Loan") and a second tranche of $50.0 million, subject to the achievement of certain commercial and financial milestones between August 7, 2019 and November 7, 2019, and the satisfaction of certain customary conditions. The Initial Loan was funded on November 7, 2018. The Loan Agreement contains customary affirmative and restrictive covenants and representations and warranties, including financial reporting obligations and minimum liquidity requirements and limitations on indebtedness, liens, negative pledges, certain restricted payments, subsidiary distributions, investments, fundamental transactions, dispositions of assets and transactions with affiliates. The Loan Agreement also contains other customary provisions, such as expense reimbursement and confidentiality obligations, as well as indemnification rights for the benefit of the Lenders.

If we raise any additional debt financing, the terms of such additional debt could further restrict our operating and financial flexibility.

Our ability to utilize our net operating loss and tax credit carryforwards may be limited.

Section 382 of the Internal Revenue Code of 1986, as amended, and the rules and regulations thereunder ("Section 382") limit a corporation's ability to utilize existing net operating loss and tax credit carryforwards once the corporation experiences an ownership change as defined in Section 382. We have undergone an ownership change for purposes of Section 382 in a prior year. For the year ended December 31, 2018, there was no impact of such limitations on our income tax provision. Since our last ownership change we have had equity offerings or acquisitions that have equity as a component of the purchase price, which increases our likelihood of experiencing a future ownership change under Section 382. Future equity offerings or acquisitions that have equity as a component of the purchase price could constitute an ownership change under Section 382. If and when any other ownership change occurs, utilization of our net operating loss and tax credit carryforwards may be limited by Section 382, which could potentially result in increased future tax liability to us.

Our operations in China subject us to risks and uncertainties relating to the laws and regulations of China.

Certain of our operations are currently based in China. Under its current leadership, the government of China has been pursuing economic reform policies, including by encouraging foreign trade and investment. However, there is no assurance that the Chinese government will continue to pursue such policies, that such policies will be successfully implemented, that such policies will not be significantly altered, or that such policies will be beneficial to our operations in China. China's system of laws can be unpredictable, especially with respect to foreign investment and foreign trade. The promulgation of new laws and regulations and changes to existing laws and regulations may adversely affect foreign investors and foreign entities with operations in China. For example, the U.S. government has called for substantial changes to foreign trade policy with China and has recently raised, and has proposed to further raise in the future, tariffs on several Chinese goods. China has retaliated with increased tariffs on U.S. goods, which we anticipate will increase our cost of doing business in China. Any further changes in U.S. trade policy could trigger retaliatory actions by affected countries, including China, resulting in trade wars and in increased costs for goods imported into the United States and our ability to sell goods and services in the affected countries. Such an outcome may reduce customer demand for our products and services, especially if parties required to pay those tariffs increase their prices, or if trading partners limit their trade with the United States. If these consequences are realized, this may materially and adversely affect our sales and our business.

Additionally, the biopharmaceutical industry in China is strictly regulated by the Chinese government. Changes to Chinese regulations affecting biopharmaceutical companies are unpredictable and may have a material adverse effect on our Chinese operations and on our business and financial condition.

Our global operations are exposed to political and economic risks, commercial volatility and events beyond our control in the countries in which we operate, some of which may be enhanced by our recent acquisition of Virttu Biologics Limited.

On April 27, 2017, we acquired Virttu Biologics Limited, which is based in the United Kingdom. In addition to challenges specific to the United States, our operations, including but not limited to our operations outside of the United States, are subject to a variety of political and economic risks, including risks arising from:

- unexpected changes in international or domestic legal, regulatory or governmental requirements or regulations, including related to intellectual property or the biopharmaceutical industry;
- unexpected increases in taxes or tariffs;

- trade protection measures or import or export licensing requirements;
- the inability to obtain necessary foreign regulatory or pricing approvals of products in a timely manner;
- fluctuations in foreign currency exchange rates;
- difficulties in staffing and managing international operations;
- less favorable intellectual property or other applicable laws;
- the effects of the implementation of the United Kingdom's decision to voluntarily depart from the European Union;
- currency controls that restrict or prohibit the payment of funds or the repatriation of earnings to the United States;
- increased costs of compliance with general business and tax regulations in these countries or regions;
- divergent legal systems and regulatory frameworks; and
- political and economic instability or corruption.

These risks and others may have a material adverse effect on our global operations and on our business and financial condition.

Uncertainty relating to the determination of LIBOR and the potential phasing out of LIBOR after 2021 may adversely affect our results of operations, financial condition, liquidity and net worth.

We routinely engage in transactions involving financial instruments, such as the purchase of loans, securities or derivatives indexed to LIBOR and the sale of LIBOR-indexed securities. In July 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced its intention to stop persuading or compelling the group of major banks that sustain LIBOR to submit rate quotations after 2021. As a result, it is uncertain whether LIBOR will continue to be quoted after 2021.

Efforts are underway to identify and transition to a set of alternative reference rates. The transition may lead to disruption, including yield volatility on LIBOR-based securities. In addition, our use of an alternative reference rate may be subject to judicial challenges. If LIBOR ceases or changes in a manner that causes regulators or market participants to question its viability, financial instruments indexed to LIBOR could experience disparate outcomes based on their contractual terms, ability to amend those terms, market or product type, legal or regulatory jurisdiction, and a host of other factors. There can be no assurance that legislative or regulatory actions will dictate what happens if LIBOR ceases or is no longer viable. In addition, while the Alternative Reference Rates Committee was created to identify best practices for market participants regarding alternative interest rates, there can be no assurance that broadly adopted industry practices will develop. Divergent industry or market participant actions could result after LIBOR is no longer available or viable. It is uncertain what effect any divergent industry practices will have on the performance of financial instruments, including ones that we own or have issued. Additionally, if an alternative method or index to LIBOR is selected, there can be no assurance that the alternative method or index will yield the same or similar economic results over the lives of the financial instruments. These developments could have a material impact on our debt securities, which could adversely affect our business, financial condition, liquidity, net worth or results of operations.

Risks Related to Acquisitions

We have and plan to continue to acquire businesses and technologies and may fail to realize the anticipated benefits of the acquisitions, and acquisitions can be costly and dilutive.

We have and plan to continue to expand our business and intellectual property portfolio through the acquisition of new businesses and technologies. For example, we recently acquired approximately 72% of the outstanding capital stock of Scilex Pharmaceuticals Inc., which remains a stand-alone company. We also acquired Virttu Biologics Limited in 2017 and Sofusa®, a revolutionary drug delivery system, in July 2018, and we are in the process of integrating this company and technology with ours. The success of any acquisition depends on, among other things, our ability to combine our business with the acquired business in a manner that does not materially disrupt existing relationships and that allows us to achieve development and operational synergies. If we are unable to achieve these objectives, the anticipated benefits of the acquisition may not be realized fully or at all or may take longer to realize than expected. In particular, the acquisition may not be accretive to our stock value or development pipeline in the near or long term.

It is possible that the integration process could result in the loss of key employees; the disruption of our ongoing business or the ongoing business of the acquired companies; or inconsistencies in standards, controls, procedures or policies that could adversely affect our ability to maintain relationships with third parties and employees or to achieve the anticipated benefits of the acquisition. Integration efforts between us and the acquired company will also divert management's attention from our core business and other opportunities that could have been beneficial to our stockholders. An inability to realize the full extent of, or any of, the anticipated benefits of the acquisition, as well as any delays encountered in the integration process,

could have an adverse effect on our business and results of operations, which may affect the value of the shares of our common stock after the completion of the acquisition. If we are unable to achieve these objectives, the anticipated benefits of the acquisition may not be realized fully or at all or may take longer to realize than expected. In particular, the acquisition may not be accretive to our stock value or development pipeline in the near or long term.

We expect to incur additional costs integrating the operations of any companies we acquire, higher development and regulatory costs, and personnel, which cannot be estimated accurately at this time. If the total costs of the integration of our companies and advancement of acquired product candidates and technologies exceed the anticipated benefits of the acquisition, our financial results could be adversely affected.

If we acquire companies or technologies in the future, they could prove difficult to integrate, disrupt our business, dilute stockholder value, and adversely affect our operating results and the value of our common stock.

As part of our business strategy, we may continue to acquire, enter into joint ventures with, or make investments in complementary or synergistic companies, services, and technologies in the future. Acquisitions and investments involve numerous risks, including:

- difficulties in identifying and acquiring products, technologies, proprietary rights or businesses that will help our business;
- difficulties in integrating operations, technologies, services, and personnel;
- diversion of financial and managerial resources from existing operations;
- the risk of entering new development activities and markets in which we have little to no experience;
- risks related to the assumption of known and unknown liabilities; and
- risks related to our ability to raise sufficient capital to fund additional operating activities.

As a result, if we fail to properly evaluate acquisitions or investments, we may not achieve the anticipated benefits of any such acquisitions, we may incur costs in excess of what we anticipate, and management resources and attention may be diverted from other necessary or valuable activities.

Any acquisitions we make could disrupt our business and seriously harm our financial condition.

We have in the past made (and may, from time to time, consider) acquisitions of complementary companies, products or technologies. Acquisitions involve numerous risks, including difficulties in the assimilation of the acquired businesses, the diversion of our management's attention from other business concerns and potential adverse effects on existing business relationships. In addition, any acquisitions could involve the incurrence of substantial additional indebtedness. We cannot assure you that we will be able to successfully integrate any acquisitions that we pursue or that such acquisitions will perform as planned or prove to be beneficial to our operations and cash flow. Any such failure could seriously harm our business, financial condition and results of operations.

Risks Related to Our Intellectual Property

Our ability to protect our intellectual property rights will be critically important to the success of our business, and we may not be able to protect these rights in the U.S. or abroad.

Our success, competitive position and future revenues will depend in part on our ability to obtain and maintain patent protection for our product candidates, methods, processes and other technologies, to prevent third parties from infringing on our proprietary rights, exclude others from using our technology and to operate without infringing upon the proprietary rights of third parties. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary rights are covered by valid and enforceable patents or are effectively maintained as trade secrets. We attempt to protect our proprietary position by maintaining trade secrets and by filing U.S. and foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development of our business. The first of the antibody family patent applications was issued in 2014, and we continue to file additional patent applications for our product candidates and technology.

We have commenced generating a patent portfolio to protect each product candidate in our pipeline. However, the patent position of biopharmaceutical companies involves complex legal and factual questions, and therefore we cannot predict with certainty whether any patent applications that we have filed or that we may file in the future will be approved will cover our products or product candidates or that any resulting patents will be enforced. In addition, third parties may challenge, seek to invalidate, limit the scope of or circumvent any of our patents, once they are issued. Thus, any patents that we own or license from third parties or joint venture or development partners may not provide any protection against competitors. Any patent applications that we have filed or that we may file in the future, or those we may license from third parties or joint venture or

development partners, may not result in patents being issued. Moreover, disputes between our licensing or joint development partners and us may arise over license scope, or ownership, assignment, inventorship and/or rights to use or commercialize patent or other proprietary rights, which may adversely impact our ability to obtain and protect our proprietary technology and products. Also, patent rights may not provide us with adequate proprietary protection or competitive advantages against competitors with similar technologies or products.

In addition, the laws of certain foreign countries do not protect our intellectual property rights to the same extent as do the laws of the U.S. If we fail to apply for intellectual property protection or if we cannot adequately protect our intellectual property rights in these foreign countries, our competitors may be able to compete more effectively against us, which could adversely affect our competitive position, as well as our business, financial condition and results of operations.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe our patents, 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, in addition to counterclaims asserting that our patents are invalid or unenforceable, or both. In any 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 patent claims 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. Any of these occurrences could adversely affect our competitive business position, business prospects and financial condition. 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.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. 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. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of shares 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. 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.

Our long-term success depends on intellectual property protection; if our intellectual property rights are invalidated or circumvented, our business will be adversely affected.

Our long-term success depends on our ability to continually discover, develop, and commercialize innovative new pharmaceutical products. Without strong intellectual property protection, we would be unable to generate the returns necessary to support the enormous investments in research and development and capital as well as other expenditures required to bring new drugs to the market and for commercialization.

Intellectual property protection varies throughout the world and is subject to change over time. In the U.S., for small molecule drug products, such as ZTlido® (lidocaine topical system 1.8%) (which is held by our subsidiary, Scilex), the Hatch-Waxman Act provides generic companies powerful incentives to seek to invalidate our pharmaceutical patents. As a result, we expect that our U.S. patents on major pharmaceutical products will be routinely challenged, and there can be no assurance that our patents will be upheld. We face generic manufacturer challenges to our patents outside the U.S. as well. In addition, competitors or other third parties may claim that our activities infringe patents or other intellectual property rights held by them. If successful, such claims could result in our being unable to market a product in a particular territory or being required to pay damages for past infringement or royalties on future sales.

If any of our trade secrets, know-how or other proprietary information is disclosed, the value of our trade secrets, know-how and other proprietary rights would be significantly impaired and our business and competitive position would suffer.

Our success also depends upon the skills, knowledge and experience of our scientific and technical personnel and our consultants and advisors, as well as our licensors. To help protect our proprietary know-how and our inventions for which patents may be unobtainable or difficult to obtain, or prior to seeking patent protection, we rely on trade secret protection and confidentiality agreements. Unlike some of our competitors, in addition to certain manufacturing processes, we maintain our proprietary libraries for ourselves as trade secrets. To this end, we require all our employees, consultants, advisors and contractors to enter into agreements which prohibit the disclosure of confidential information and, where applicable, require disclosure and assignment to us of the ideas, developments, discoveries and inventions important to our business. These agreements may not provide adequate protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure or the lawful development by others of such information. If any of our trade secrets, know-how or other proprietary information is disclosed, the value of our trade secrets, know-how and other proprietary rights would be significantly impaired and our business and competitive position would suffer. Moreover, our third-party licensing partners may retain rights in some of our proprietary or joint trade secrets, know-how, patented inventions or other proprietary information, including rights to sublicense and rights of publication, which may adversely impact our ability to obtain patents and protect trade secrets, know-how or other proprietary information. In addition, the U.S. government may retain rights in some of our patents or other proprietary information.

Third party competitors may seek to challenge the validity of our patents, thereby rendering them unenforceable or we may seek to challenge third party competitor patents if such third parties seek to interpret or enforce a claim scope going well beyond the actual enabled invention.

Claims that we infringe upon the rights of third parties may give rise to costly and lengthy litigation, and we could be prevented from selling products, forced to pay damages, and defend against litigation.

Third parties may assert patent or other intellectual property infringement claims against us or our strategic partners or licensees with respect to our technologies and product candidates or potential product candidates. If our products, methods, processes and other technologies infringe upon the proprietary rights of other parties, we could incur substantial costs and we may have to:

- obtain licenses, which may not be available on commercially reasonable terms, if at all, and may be non-exclusive, thereby giving our competitors access to the same intellectual property licensed to us;
- redesign our products or processes to avoid infringement;
- stop using the subject matter validly claimed in the patents held by others;
- pay damages; and
- defend litigation or administrative proceedings which may be costly whether we win or lose, and which could result in a substantial diversion of our valuable management resources.

Even if we were to prevail, any litigation could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. Furthermore, as a result of a patent infringement suit brought against us or our strategic partners or licensees, we or our strategic partners or licensees may be forced to stop or delay developing, manufacturing or selling technologies, product candidates or potential products that are claimed to infringe a third party's intellectual property unless that party grants us or our strategic partners' or licensees' rights to use its intellectual property. Ultimately, we may be unable to develop some of our technologies or potential products or may have to discontinue development of a product candidate or cease some of our business operations as a result of patent infringement claims, which could severely harm our business.

Our position as a relatively small company may cause us to be at a significant disadvantage in defending our intellectual property rights and in defending against infringement claims by third parties.

Litigation relating to the ownership and use of intellectual property is expensive, and our position as a relatively small company in an industry dominated by very large companies may cause us to be at a significant disadvantage in defending our intellectual property rights and in defending against claims that our technology infringes or misappropriates third party intellectual property rights. However, we may seek to use various post-grant administrative proceedings, including new procedures created under the America Invents Act, to invalidate potentially overly-broad third party rights. Even if we can defend our position, the cost of doing so may adversely affect our ability to grow, generate revenue or become profitable. In the course of the ongoing litigation or any future additional litigation to which we may be subject, we may not be able to protect our intellectual property at a reasonable cost, or at all. The outcome of litigation is always uncertain, and in some cases could

include judgments against us that require us to pay damages, enjoin us from certain activities or otherwise affect our legal, contractual or intellectual property rights, which could have a significant adverse effect on our business.

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

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including PTO administrative proceedings, such as inter partes reviews, and reexamination proceedings before the PTO or oppositions and revocations and other comparable proceedings in foreign jurisdictions. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others.

Despite safe harbor provisions, third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents, of which we are currently unaware, with claims to materials, formulations, methods of doing research or library screening, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent published applications which may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtain a license under the applicable patents, or until such patents expire or they are finally determined to be held invalid or unenforceable. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy or patient selection methods, the holders of any such patent may be able to block our ability to develop and commercialize the applicable product candidate unless we obtain a license, limit our uses, or until such patent expires or is finally determined to be held invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms or at all.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, cease marketing our products or developing our product candidates, limit our uses, pay royalties or redesign our infringing product candidates, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize one or more of our product candidates, which could harm our business significantly.

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

Filing, prosecuting and defending patents on all of our product candidates throughout the world would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the U.S. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so 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 and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents 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 cost and divert our efforts and attention from other aspects of our business.

Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information and may not adequately protect our intellectual property, which could limit our ability to compete.

Because we operate in the highly technical field of research and development of biologics and small molecule drugs, we rely in part on trade secret protection in order to protect our proprietary trade secrets and unpatented know-how. However, trade secrets are difficult to protect, and we cannot be certain that others will not develop the same or similar technologies on their own. We have taken steps, including entering into confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors, to protect our trade secrets and unpatented know-how. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us during the party's relationship with us. We also typically obtain agreements from these parties which provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. Enforcing a claim that a party illegally obtained and is using our trade secrets or know-how is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. may be less willing to protect trade secrets or know-how. The failure to obtain or maintain trade secret protection could adversely affect our competitive position.

If we breach any of the agreements under which we license commercialization rights to our product candidates from third parties, we could lose license rights that are important to our business.

We license the use, development and commercialization rights for all of our product candidates and may enter into similar licenses in the future. Under each of our existing license agreements we are subject to commercialization and development, diligence obligations, milestone payment obligations, royalty payments and other obligations. If we fail to comply with any of these obligations or otherwise breach our license agreements, our licensing partners may have the right to terminate the license in whole or in part.

For example, certain of our joint development and/or licensing agreements, including but not limited to our agreement with City of Hope, set forth diligence milestones including timelines in which certain clinical trials should be initiated. Due to the uncertainty of drug development and clinical trials as set forth above, we may not be able to meet these diligence milestones, which could result in loss of exclusivity or loss of our rights to develop certain products or services pursuant to those agreements.

Generally, the loss of any one of our current licenses or other licenses in the future could materially harm our business, prospects, financial condition and results of operations.

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

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed;
- We or our licensors or strategic partners might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed;
- We or our licensors or strategic partners might not have been the first to file patent applications covering certain of our inventions;
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- Our pending patent applications may not lead to issued patents;
- Issued patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- Our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- We may not develop additional proprietary technologies that are patentable; and
- The patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business, results of operations and prospects.

From time to time we may need to license patents, intellectual property and proprietary technologies from third parties, which may be difficult or expensive to obtain.

We may need to obtain licenses to patents and other proprietary rights held by third parties to successfully develop, manufacture and market our drug products. As an example, it may be necessary to use a third party's proprietary technology to reformulate one of our drug products in order to improve upon the capabilities of the drug product. If we are unable to timely obtain these licenses on reasonable terms, our ability to commercially exploit our drug products may be inhibited or prevented.

We remain responsible for payments of all milestone and license fees to Samyang Biopharmaceuticals Corporation pursuant to our agreement with NantPharma.

As a result of our acquisition of IgDraSol, Inc. in September 2013, we became a party to an Exclusive Distribution Agreement, as amended, with Samyang Biopharmaceuticals Corporation ("Samyang") in connection with our development of Cynviloq™ which contained various milestone and license fees to be paid to Samyang. On May 14, 2015, we sold all our equity interests in IgDrasol, Inc. to NantPharma, LLC ("NantPharma"). As part of the sale, we agreed with NantPharma to be responsible for and pay all milestone and license fees required to be paid to Samyang under the Exclusive Distribution Agreement following notification from NantPharma when such milestone and license fees become due and payable. If such milestone or licenses fees become due and payable, the payment thereof could materially harm our business and financial condition.

Risks Related to Ownership of Our Common Stock

The market price of our common stock may fluctuate significantly, and investors in our common stock may lose all or a part of their investment.

The market prices for securities of biotechnology and pharmaceutical companies have historically been highly volatile, and the market has from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. For example, from January 2, 2018 to December 31, 2018, our closing stock price ranged from $2.01 to $9.95 per share. The market price of our common stock may fluctuate significantly in response to numerous factors, some of which are beyond our control, such as:

- actual or anticipated adverse results or delays in our clinical trials;
- our failure to commercialize our product candidates, if approved;
- unanticipated serious safety concerns related to the use of any of our product candidates;
- adverse regulatory decisions;
- changes in laws or regulations applicable to our product candidates, including but not limited to clinical trial requirements for approvals;
- legal disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our product candidates, government investigations and the results of any proceedings or lawsuits, including, but not limited to, patent or stockholder litigation;
- our decision to initiate a clinical trial, not initiate a clinical trial or to terminate an existing clinical trial;
- our dependence on third parties, including CROs;
- announcements of the introduction of new products by our competitors;
- market conditions in the pharmaceutical and biotechnology sectors;
- announcements concerning product development results or intellectual property rights of others;
- future issuances of common stock or other securities;
- the addition or departure of key personnel;
- failure to meet or exceed any financial guidance or expectations regarding development milestones that we may provide to the public;
- actual or anticipated variations in quarterly operating results;
- our failure to meet or exceed the estimates and projections of the investment community;
- overall performance of the equity markets and other factors that may be unrelated to our operating performance or the operating performance of our competitors, including changes in market valuations of similar companies;
- conditions or trends in the biotechnology and biopharmaceutical industries;
- introduction of new products offered by us or our competitors;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- issuances of debt or equity securities;
- sales of our common stock by us or our stockholders in the future;
- trading volume of our common stock;

- ineffectiveness of our internal controls;
- publication of research reports about us or our industry or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- failure to effectively integrate the acquired companies' operations;
- general political and economic conditions;
- effects of natural or man-made catastrophic events; and
- other events or factors, many of which are beyond our control.

Further, the equity markets in general have recently experienced extreme price and volume fluctuations. Continued market fluctuations could result in extreme volatility in the price of our common stock, which could cause a decline in the value of our common stock. Price volatility of our common stock might worsen if the trading volume of our common stock is low. The realization of any of the above risks or any of a broad range of other risks, including those described in these "Risk Factors," could have a dramatic and material adverse impact on the market price of our common stock.

We have not paid cash dividends in the past and do not expect to pay cash dividends in the foreseeable future. Any return on investment may be limited to the value of our common stock.

We have never paid cash dividends on our common stock and do not anticipate paying cash dividends on our common stock in the foreseeable future. The Loan Agreement prohibits us from paying any dividends without the prior written consent of the Lenders. In addition, pursuant to our outstanding convertible notes issued in June 2018, so long as the outstanding principal amount under all such notes is at least $18,845,851, we are prohibited from paying any dividends without the prior written consent of the holders of such notes. The payment of dividends on our capital stock will depend on our earnings, financial condition and other business and economic factors affecting us at such time as the board of directors may consider relevant. If we do not pay dividends, our common stock may be less valuable because a return on your investment will only occur if the common stock price appreciates.

Our strategic investments may result in losses.

We periodically make strategic investments in various public and private companies with businesses or technologies that may complement our business. The market values of these strategic investments may fluctuate due to market conditions and other conditions over which we have no control. Other-than-temporary declines in the market price and valuations of the securities that we hold in other companies would require us to record losses related to our investment. This could result in future charges to our earnings. It is uncertain whether or not we will realize any long-term benefits associated with these strategic investments.

A sale of a substantial number of shares of the common stock may cause the price of our common stock to decline.

If our stockholders sell, or the market perceives that our stockholders intend to sell for various reasons, substantial amounts of our common stock in the public market, including shares issued in connection with the exercise of outstanding options or warrants, the market price of our common stock could fall. Sales of a substantial number of shares of our common stock may make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate. We may become involved in securities class action litigation that could divert management's attention and harm our business.

The stock markets have from time to time experienced significant price and volume fluctuations that have affected the market prices for the common stock of biotechnology and biopharmaceutical companies. These broad market fluctuations may cause the market price of our common stock to decline. In the past, securities class action litigation has often been brought against a company following a decline in the market price of our securities. This risk is especially relevant for us because biotechnology and biopharmaceutical companies have experienced significant stock price volatility in recent years. We may become involved in this type of litigation in the future. Litigation often is expensive and diverts management's attention and resources, which could adversely affect our business.

Our quarterly operating results may fluctuate significantly.

We expect our operating results to be subject to quarterly fluctuations. Our net loss and other operating results will be affected by numerous factors, including:

- variations in the level of expenses related to our development programs;
- the addition or termination of clinical trials;
- any intellectual property infringement lawsuit in which we may become involved;

- regulatory developments affecting our product candidates; and
- our execution of any collaborative, licensing or similar arrangements, and the timing of payments we may make or receive under these arrangements.

If our quarterly operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly fluctuations in our operating results may, in turn, cause the price of our common stock to fluctuate substantially.

Existing stockholders' interest in us may be diluted by additional issuances of equity securities and raising funds through acquisitions, lending and licensing arrangements may restrict our operations or require us to relinquish proprietary rights.

We may issue additional equity securities to fund future expansion and pursuant to equity incentive or employee benefit plans. We may also issue additional equity for other purposes. These securities may have the same rights as our common stock or, alternatively, may have dividend, liquidation or other preferences to our common stock. The issuance of additional equity securities will dilute the holdings of existing stockholders and may reduce the share price of our common stock.

If we raise additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish potentially valuable rights to our product candidates, potential products or proprietary technologies, or grant licenses on terms that may not be favorable to us. If adequate funds are not available, our ability to achieve profitability or to respond to competitive pressures would be significantly limited and we may be required to delay, significantly curtail or eliminate the development of our product candidates.

Directors, executive officers, principal stockholders and affiliated entities own a significant percentage of our capital stock, and they may make decisions that you do not consider to be in your best interests or those of our other stockholders.

As of December 31, 2018, our directors and executive officers beneficially owned, in the aggregate, approximately 5% of our outstanding voting securities. As a result, if some or all of them acted together, they would have the ability to exert significant influence over the election of our board of directors and the outcome of issues requiring approval by our stockholders. This concentration of ownership may also have the effect of delaying or preventing a change in control of our company that may be favored by other stockholders. This could prevent transactions in which stockholders might otherwise recover a premium for their shares over current market prices.

Our ability to use our net operating loss and tax credit carry forwards may be subject to limitation.

Generally, a change of more than 50% in the ownership of a company's stock, by value, over a three-year period constitutes an ownership change for U.S. federal income tax purposes. An ownership change may limit our ability to use our net operating loss carryforwards attributable to the period prior to the change. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may become subject to limitations, which could potentially result in increased future tax liability for us.

Our certificate of incorporation, as amended, and bylaws provide for indemnification of officers and directors at our expense and limits their liability, which may result in a major cost to us and hurt the interests of our stockholders because corporate resources may be expended for the benefit of our officers and/or directors.

Our certificate of incorporation, as amended, bylaws and applicable Delaware law provide for the indemnification of our directors, officers, employees, and agents, under certain circumstances, against attorney's fees and other expenses incurred by them in any litigation to which they become a party arising from their association with or activities on our behalf. We will also bear the expenses of such litigation for any of our directors, officers, employees, or agents, upon such person's promise to repay us, therefore if it is ultimately determined that any such person shall not have been entitled to indemnification. This indemnification policy could result in substantial expenditures by us, which we will be unable to recover.

Our corporate documents and Delaware law contain provisions that could discourage, delay or prevent a change in control of our company, prevent attempts to replace or remove current management and reduce the market price of our common stock.

Provisions in our certificate of incorporation, as amended, and bylaws may discourage, delay or prevent a merger or acquisition involving us that our stockholders may consider favorable. For example, our certificate of incorporation, as amended, authorizes our board of directors to issue up to 100,000,000 shares of "blank check" preferred stock. As a result, without further stockholder approval, the board of directors has the authority to attach special rights, including voting and

dividend rights, to this preferred stock. With these rights, preferred stockholders could make it more difficult for a third party to acquire us.

We are also subject to the anti-takeover provisions of the General Corporation Law of the State of Delaware. Under these provisions, if anyone becomes an "interested stockholder," we may not enter into a "business combination" with that person for three years without special approval, which could discourage a third party from making a takeover offer and could delay or prevent a change in control of us. An "interested stockholder" means, generally, someone owning 15% or more of our outstanding voting stock or an affiliate of ours that owned 15% or more of our outstanding voting stock within the past three years, subject to certain exceptions as described in the General Corporation Law of the State of Delaware.

We have adopted a shareholder rights plan, the purpose of which is, among other things, to enhance our board of directors' ability to protect shareholder interests and to ensure that stockholders receive fair treatment in the event any coercive takeover attempt of our company is made in the future. The shareholder rights plan could make it more difficult for a third party to acquire, or could discourage a third party from acquiring, our company or a large block of our common stock.

Compliance with changing regulations concerning corporate governance and public disclosure may result in additional expenses.

There have been changing laws, regulations and standards relating to corporate governance and public disclosure, including the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley"), new regulations promulgated by the U.S. Securities and Exchange Commission (the "SEC") and rules promulgated by the national securities exchanges. The Dodd-Frank Act, enacted in July 2010, expanded federal regulation of corporate governance matters and imposes requirements on public companies to, among other things, provides stockholders with a periodic advisory vote on executive compensation and also adds compensation committee reforms and enhanced pay-for-performance disclosures. While some provisions of the Dodd-Frank Act were effective upon enactment, others have been and will be implemented upon the SEC's adoption of related rules and regulations. The scope and timing of the adoption of such rules and regulations is uncertain and, accordingly, the cost of compliance with the Dodd-Frank Act is also uncertain. Additionally, while campaigning, President Trump made statements suggesting he may seek to adopt legislation that could significantly affect the regulation of United States financial markets. Areas subject to potential change, amendment or repeal include the Dodd-Frank Act, including § 619 (12 U.S.C. § 1851) known as the Volcker Rule and various swaps and derivatives regulations, the authority of the Federal Reserve and the Financial Stability Oversight Council, and renewed proposals to separate banks' commercial and investment banking activities.

These new or changed laws, regulations and standards are, or will be, 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, which could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. As a result, our efforts to comply with evolving laws, regulations and standards are likely to continue to result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. Members of our board of directors and our principal executive officer and principal financial officer could face an increased risk of personal liability in connection with the performance of their duties. As a result, we may have difficulty attracting and retaining qualified directors and executive officers, which could harm our business. If the actions we take in our efforts to comply with new or changed laws, regulations and standards differ from the actions intended by regulatory or governing bodies, we could be subject to liability under applicable laws or our reputation may be harmed.

We have identified material weaknesses in our internal control over financial reporting, and our financial controls and procedures may not in the future be sufficient to ensure timely and reliable reporting of financial information, which could materially harm our stock price and exchange listing, could cause our stock price to decline significantly and could make it more difficult for us to raise capital.

Sarbanes-Oxley specifically requires, among other things, that we maintain effective internal controls for financial reporting and disclosure of controls and procedures. In particular, we must perform system and process evaluation and testing of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting, as required by Section 404 of Sarbanes-Oxley.

In March 2018, in connection with the preparation of our 2017 financial statements, we identified that the accounting implications of terms in certain unusual or non-recurring and significant agreements were not identified and assessed on a timely basis. Further, valuation of certain associated assets or liabilities were not properly reassessed at the end of each

reporting period. The material weakness did not result in a restatement of previously issued annual consolidated financial statements or condensed interim consolidated financial statements.

In connection with the preparation of our consolidated financial statements for the year ended December 31, 2018 there were multiple errors identified related to management's review of significant agreements. We believe the errors identified are due to deficiencies in our internal control environment resulting from insufficient competent accounting resources, including a Chief Accounting Officer, to effectively operate internal controls over financial reporting in a timely manner.

This ineffective control environment contributed to the following material weaknesses: (i) management did not adequately evaluate the underlying assumptions associated with the accounting for key terms identified in significant agreements, which in the current year included convertible notes and debt agreements and (ii) management did not accurately assess the significant assumptions in order to properly estimate the fair value of contingent consideration liabilities. We also identified the following deficiencies in our internal control environment resulting from insufficient accounting resources that collectively represent a material weakness: Management did not properly assess significant assumptions through the performance of precise reviews of accounting estimates including probability of occurrence and assumptions used in evaluating the fair value of embedded derivatives, fair value of indefinite-lived intangible assets, and income tax related balances. Such material weaknesses could result in material misstatements of the aforementioned account balances or disclosures in the annual or interim consolidated financial statements that would not be prevented or detected.

We have initiated and will continue to implement remediation measures to address the underlying causes of the material weaknesses described above and to improve and strengthen our internal control over financial reporting. We cannot assure you that the measures we have taken to date or any measures we may take in response to the material weaknesses in the future will be sufficient to remediate such material weakness or to avoid potential future material weaknesses. Even if we develop effective controls, these new controls may become inadequate because of changes in conditions or the degree of compliance with these policies or procedures may deteriorate.

Our compliance with Section 404 of Sarbanes-Oxley requires that we incur substantial accounting expense and expend significant management efforts. We will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. Moreover, if we are not able to comply with the requirements of Section 404 of Sarbanes-Oxley in a timely manner, if we fail to remediate the material weaknesses in internal control over financial reporting or if we or our independent registered public accounting firm identifies additional deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities, which would require additional financial and management resources.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

We currently have leases in San Diego, California of approximately 130,584 square feet of corporate office and laboratory space, approximately 1,405 square feet of laboratory and office space at a second location as well as approximately 36,400 square feet for offices and cGMP fill and finish and storage space. In November 2018, we entered into a new lease in San Diego, California for approximately 61,200 square feet of additional corporate office and laboratory space, which commences in the first quarter of 2019 and expires in October 2029. In December 2018, we entered into a new lease in Broomfield, Colorado, for approximately 4,500 square feet of additional office space, which is expected to commence in the second quarter of 2019 and expires in 2024.

Our lease agreement in San Diego, for our corporate office and laboratory space expires in October 2029. The leases for our second laboratory and office space and our cGMP fill and finish and storage space expire in September 2020 and November 2022, respectively. We also lease 25,381 square feet of office and laboratory space in Suzhou, China, which lease expires in June 30, 2021. We lease 2,312 square feet of office, laboratory, and storage space in Scotland, which lease expires in March 2021. We sublease in New York, New York approximately 4,550 square feet of additional corporate office space. The sublease began in July of 2017 and expires in December 2020. We also lease approximately 3,432 square feet of office and laboratory space in Atlanta, Georgia which began in October of 2018 and expires in September 2024.

Item 3. Legal Proceedings.

To the best of our knowledge, we are not currently a party to any legal proceedings that, individually or in the aggregate, are deemed to be material to our financial condition or results of operations.

In the normal course of business, we may be named as a defendant in one or more lawsuits. We are not a party to any outstanding material litigation and management is currently not aware of any legal proceedings that, individually or in the aggregate, are deemed to be material to our financial condition or results of operations.

Immunomedics Litigation

On June 26, 2015, Immunomedics, Inc. (“Immunomedics”) filed a complaint in the United States District Court for the District of New Jersey (the “New Jersey Case”) against the Board of Directors of RWMC, Dr. Richard P. Junghans, Dr. Steven C. Katz, the Office of the Board of Advisors of Tufts University School of Medicine, and one or more individuals or entities to be identified later. This complaint (the "Initial Complaint") alleged, among other things: (1) breach of contract; (2) breach of covenant of good faith and fair dealing; (3) tortious interference with prospective economic gain; (4) tortious interference with contracts; (5) misappropriation; (6) conversion; (7) bailment; (8) negligence; (9) vicarious liability; and (10) patent infringement. Overall, the allegations in the Initial Complaint were generally directed to an alleged material transfer agreement dated December 2008 and Immunomedics’ alleged request for the return of certain alleged research material, as well as the alleged improper use and conversion of such research materials outside the scope of the material transfer agreement.

On October 22, 2015, Immunomedics filed an amended complaint (the “First Amended Complaint”), which, among other things, no longer named the Board of Directors of RWMC and The Office of the Board of Advisors of Tufts University School of Medicine as defendants. RWMC and Tufts Medical Center were added as new defendants. On January 14, 2016, Immunomedics filed a second amended complaint (the "Second Amended Complaint"), which, among other things, no longer named Tufts Medical Center as a defendant. In addition, the Second Amended Complaint contained allegations directed to two additional alleged material transfer agreements dated September 1993 and May 2010, respectively, and also added an allegation of unjust enrichment. The Second Amended Complaint also no longer asserted claims for (1) breach of covenant of good faith and fair dealing; (2) misappropriation; (3) bailment; (4) negligence; and (5) vicarious liability.

On October 12, 2016, Immunomedics filed a third amended complaint (the “Third Amended Complaint”), which added us, TNK, BDL and CARgenix as defendants. TNK is our subsidiary and purchased BDL and CARgenix in August 2015. The Third Amended Complaint included, among other things, allegations against us, TNK, BDL and CARgenix regarding (1) conversion; (2) tortious interference; and (3) unjust enrichment. On December 2, 2016, we, TNK, BDL, and CARgenix filed a motion to dismiss Immunomedics’ complaint against them for lack of personal jurisdiction. On January 25, 2017, the District of New Jersey granted this motion, and we, TNK, BDL and CARgenix were dismissed as defendants from the New Jersey Case. Under various agreements, TNK has certain indemnification obligations to RWMC, Dr. Richard P. Junghans and Dr. Steven C. Katz that may be implicated by the New Jersey Case.

On April 27, 2018, Immunomedics filed a Complaint against us and TNK in San Diego Superior Court, Case No. 37-2018-00021006-CU-NP-CTL (the “San Diego Case”). The Complaint includes, among other things, allegations against us and TNK regarding (1) conversion; (2) tortious interference; and (3) inducing breach of contract.

On October 25, 2018, the parties to the New Jersey Case and the San Diego Case entered into a Mutual General Release and Settlement Agreement resolving both matters. Pursuant to the terms of the settlement, among other things, both the New Jersey Case and San Diego Case were dismissed with prejudice upon payment by us to Immunomedics of $2.35 million, which payment was timely made as called for by the agreement.

Cantor Fitzgerald & Co. Litigation

On May 25, 2018, Cantor Fitzgerald & Co. (“CF&Co.”) filed a complaint against us in the Supreme Court of the State of New York, County of New York, Index No. 652633/2018. The complaint includes, among other things, allegations against us for breach of contract arising out of a letter agreement whereby CF&Co. was to supply certain services to us in exchange for a fee (the “CF & Co. Litigation”). We filed an Answer and Counterclaim for breach of contract against CF&Co claiming that CF&Co. did not perform under the letter agreement.

Following a mediation held on December 19, 2018, the parties entered into a settlement agreement resolving the matter. Pursuant to the terms of the agreement, the litigation was dismissed with prejudice upon payment by us to CF&Co. of $1.0 million, which payment was timely made as called for by the agreement.

Item 4. Mine Safety Disclosures.

None.

PART II

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

Market Information

Our common stock is listed on the Nasdaq Capital Market under the symbol "SRNE".

Holders of Record

As of February 21, 2019, there were 225 holders of record of our common stock.

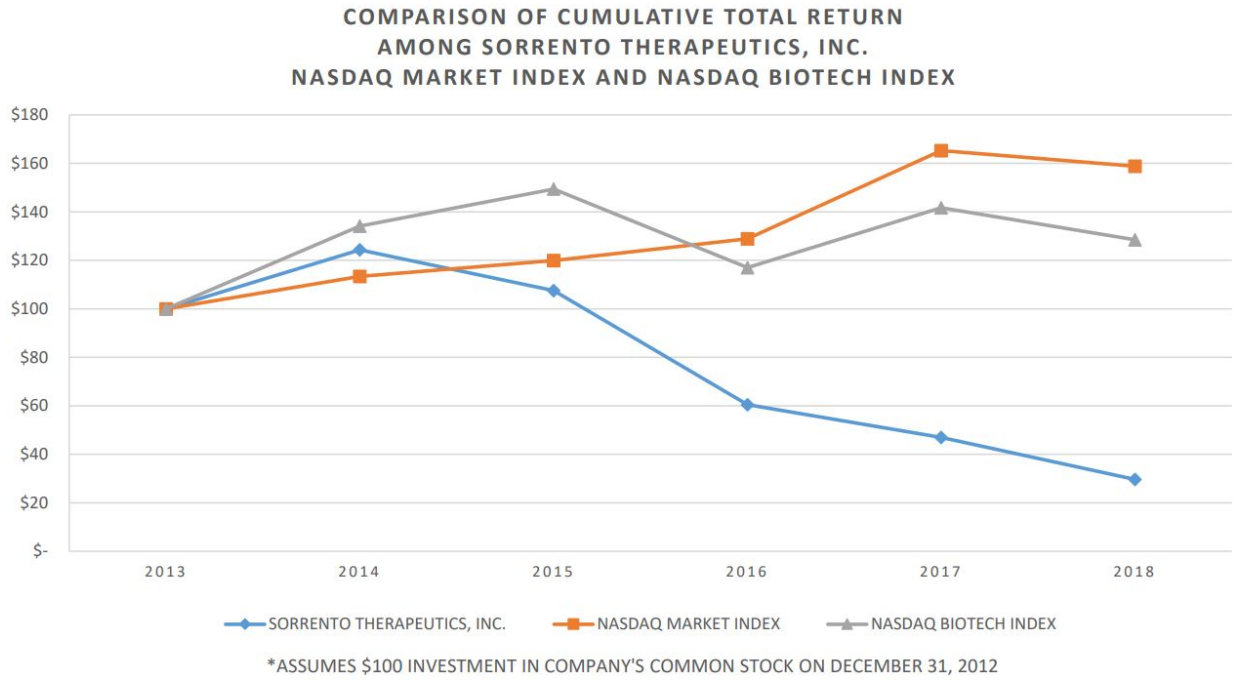
Recent Sales of Unregistered Securities

On November 7, 2018, we and certain of our domestic subsidiaries (the "Guarantors") entered into a Term Loan Agreement (the "Loan Agreement") with certain funds and accounts managed by Oaktree Capital Management, L.P. (collectively, the "Lenders") and Oaktree Fund Administration, LLC, as administrative and collateral agent. In connection with the Loan Agreement, on November 7, 2018, we issued to the Lenders warrants to purchase 6,288,985 shares of our common stock (the "Initial Warrants"). The Initial Warrants have an exercise price per share of $3.28, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, will be exercisable from May 7, 2019 through May 7, 2029 and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Initial Warrants (the "Initial Warrant Shares"), in which case the Initial Warrants shall also be exercisable on a cashless exercise basis.

We issued to the Lenders the Initial Warrants in reliance on the exemption from registration provided for under Section 4(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"). We relied on this exemption from registration for private placements based in part on the representations made by the Lenders, including the representations with respect to each of the Lender's status as an accredited investor, as such term is defined in Rule 501(a) of the Securities Act, and such Lender's investment intent.

Performance Graph

The following graph compares the cumulative total stockholder return on our common stock from December 31, 2012 to December 31, 2018 with the cumulative total return of (i) the Nasdaq Market Index and (ii) the Nasdaq Biotechnology Index. This graph assumes the investment of $100.00 after the market closed on December 31, 2012 in our common stock, and in the Nasdaq Market Index and the Nasdaq Biotechnology Index, and it assumes any dividends are reinvested. The stock price performance included in this graph is not necessarily indicative of future stock price performance.



Item 6. Selected Financial Data.

You should read the selected consolidated financial data presented below in conjunction with the audited consolidated financial statements appearing elsewhere in this Form 10-K and the notes to those statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations." The selected consolidated financial data as of December 31, 2018 and 2017, and for each of the years in the three-year period ended December 31, 2018, have been derived from our audited consolidated financial statements which appear elsewhere in this Form 10-K. The selected consolidated financial data as of December 31, 2016, 2015 and 2014 and for the years ended December 31, 2015 and 2014 have been derived from our audited consolidated financial statements which are not included in this Form 10-K. The historical results are not necessarily indicative of the operating results to be expected in the future. All financial information presented has been prepared in United States dollars and in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP").

	Year Ended December 31,				
(In thousands, except per share data)	2018	2017	2016	2015	2014
Income Statement Data:					
Revenues:					
Grant	$ 356	$ 206	$ 1,033	$ 1,530	$ 488
Royalties and licenses	480	140,381	4,017	3,010	3,337
Sales and services	20,357	11,269	3,102	50	—
Total revenues	21,193	151,856	8,152	4,590	3,825
Income (Loss) from operations (1)	(150,425)	25,335	(96,777)	(74,005)	(34,742)
Net income (loss)	$ (212,526)	$ 11,109	$ (63,937)	$ (50,074)	$ (34,657)
Net loss per share - basic	$ (1.92)	$ 0.13	$ (1.21)	$ (1.24)	$ (1.30)
Net loss per share - diluted	$ (1.92)	$ 0.13	$ (1.21)	$ (1.24)	$ (1.30)
Weighted average number of shares during the period - basic	106,150	69,742	50,360	36,909	26,679
Weighted average number of shares during the period - diluted	106,150	70,381	50,360	36,909	26,679

(1) Year-over-year increase in 2017 is primarily due to revenue recognized from the intangibles transferred to Celularity as a result of closing the Contribution Agreement in 2017.

	As of December 31,				
(In thousands)	2018	2017	2016	2015	2014
Balance Sheet Data:					
Cash and cash equivalents	$ 158,738	$ 20,429	$ 82,398	$ 39,038	$ 71,902
Intangibles, net	66,283	71,013	64,776	3,912	4,357
Goodwill	38,298	38,298	41,548	20,626	24,041
Total assets	624,087	431,613	401,586	343,519	141,541
Total liabilities	416,587	225,003	315,084	202,581	32,828
Stockholders' equity	207,500	206,610	86,502	140,938	108,713
Net Working Capital	117,943	(49,255)	13,569	110,145	64,358

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the financial statements and the related notes and other information that are included elsewhere in this Form 10-K. This discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties, such as our plans, objectives, expectations and intentions. Actual results and the timing of events could differ materially from those anticipated in these forward-looking statements as a result of a number of factors, including those set forth under the cautionary note regarding "Forward-Looking Statements" contained elsewhere in this Form 10-K. Additionally, you should read 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

Sorrento Therapeutics, Inc. (Nasdaq: SRNE), together with its subsidiaries (collectively, the "Company", "we", "us" and "our") is a clinical stage and commercial biopharma company focused on delivering innovative and clinically meaningful therapies to patients and their families, globally, to address unmet medical needs. We primarily focus on therapeutics areas in Immune-Oncology and Non-Opioid Pain Management. We also have programs assessing the use of our technologies and products in autoimmune, inflammatory and neurodegenerative diseases.

At our core, we are an antibody-centric company and leverage our proprietary G-MAB™ library and targeted delivery modalities to generate the next generation of cancer therapeutics. Our fully human antibodies include PD-1, PD-L1, CD38, CD123, CD47, c-MET, VEGFR2, CCR2 and CD137 among others.

Our vision is to leverage these antibodies in conjunction with proprietary targeted delivery modalities to generate the next generation of cancer therapeutics. These modalities include proprietary chimeric antigen receptor T-cell therapy ("CAR-T"), dimeric antigen receptor T-cell therapy ("DAR-T"), antibody drug conjugates ("ADCs") as well as bispecific antibody approaches. Additionally, we acquired Sofusa®, a revolutionary drug delivery system, in July 2018, which delivers biologics directly into the lymphatic system to potentially achieve improved efficacy and fewer adverse effects than standard parenteral immunotherapy.

With each of our clinical and pre-clinical programs, we aim to tailor our therapies to treat specific stages in the evolution of cancer, from elimination, to equilibrium and escape. In addition, our objective is to focus on tumors that are resistant to current treatments and where we can design focused trials based on a genetic signature or biomarker to ensure patients have the best chance of a durable and significant response. We have several immuno-oncology programs that are in or near to entering the clinic. These include cellular therapies, an oncolytic virus and a palliative care program targeted to treat intractable cancer pain. Our cellular therapy programs focus on CAR-T for adoptive cellular immunotherapy to treat both solid and liquid tumors. We have reported early data from Phase I trials of our carcinoembryonic antigen ("CEA")-directed CAR-T program. We have treated five patients with stage 4, unresectable adenocarcinoma (four with pancreatic and one with colorectal cancer) and CEA-positive liver metastases with anti-CEA CAR-T and are currently expanding this study. We successfully submitted an Investigational New Drug application ("IND") for anti-CD38 CAR-T for the treatment of refractory or relapsed multiple myeloma ("RRMM") and obtained approval from the U.S. Food and Drug Administration (the "FDA") to commence a human

clinical trial for this indication in early 2018. We have dosed two patients and are continuing the enrollment of additional patients.

Broadly speaking, we are one of the world's leading CAR-T companies today due to our investments in technology and infrastructure, which have enabled significant progress in developing our next-generation non-viral, "off-the-shelf" allogeneic CAR-T solutions. With "off-the-shelf" solutions, CAR-T therapy can truly become a drug product rather than a treatment procedure. One of the approaches we have taken to develop the "off-the-shelf" allogeneic CAR-T solutions is through Celularity, our joint venture with Celgene, United Therapeutics and others. Celularity focuses on developing cell therapies with placenta-derived and cord blood T cells, which have natural allogeneic "off-the-shelf" characteristics. We are the single largest shareholder of Celularity with a stake of approximately 25%.

Outside of immune-oncology programs, as part of our global aim to provide a wide range of therapeutic products to meet underserved markets, we have made investments in non-opioid pain management. These include resiniferatoxin ("RTX"), which is a non-opioid-based neurotoxin that specifically ablates nerves that conduct pain signals while leaving other nerve functions intact and is being studied for chronic pain treatment. RTX has been granted orphan drug status for the treatment of intractable pain with end-stage cancer and a Phase I trial with the National Institutes of Health ("NIH") is concluding. A Phase Ib trial studying tolerance and efficacy of RTX for the control of osteoarthritis knee pain was initiated in late 2018 and preliminary results have shown strong efficacy with no significant adverse effects. Other applications of RTX are expected to start Phase Ib trials in 2019.

Also in the area of non-opioid pain management, we have acquired proprietary technologies to responsibly develop next generation, branded pharmaceutical products to better manage patients' medical conditions and maximize the quality of life of patients and healthcare providers. The flagship product of our majority-owned subsidiary, Scilex Pharmaceuticals Inc. ("Scilex"), ZTlido® (lidocaine topical system 1.8%), is a next-generation lidocaine delivery system which was approved by the FDA for the treatment of postherpetic neuralgia, a severe neuropathic pain condition, in February 2018, and was commercially launched in late October 2018. Scilex now has built a full commercial organization, which includes sales, marketing, market access, and medical affairs. ZTlido® is positioned as a best-in-class product with superior adhesion compared to Lidoderm and is manufactured by our Japanese partner in their state-of-the-art manufacturing facility.

Significant Developments

2018 Securities Purchase Agreement in Private Placement and Amendment to Warrants

On March 26, 2018, we entered into a Securities Purchase Agreement, as amended by Amendment No. 1 thereto, dated as of June 13, 2018 (the "Securities Purchase Agreement") with certain accredited investors (the "Purchasers"). Pursuant to the Securities Purchase Agreement, we agreed to issue and sell to the Purchasers, in a private placement (the "Private Placement"), (1) convertible promissory notes in an aggregate principal amount of $37,848,750 (the "Notes"), and (2) warrants to purchase 2,698,662 shares of our common stock (the "Warrants").

On June 13, 2018, pursuant to the Securities Purchase Agreement, we issued and sold to the Purchasers, in the Private Placement, the Notes and the Warrants.

On November 7, 2018, we entered into an Agreement and Consent (the "Agreement and Consent") with the Purchasers Pursuant to the Agreement and Consent, in consideration for certain of the Purchasers, in their capacity as holders of the Notes, providing a waiver and consent on behalf of all holders of the Notes, pursuant to which the Purchasers provided us with certain waivers of their rights and certain of our covenants under the Securities Purchase Agreement with respect to the Loan Agreement (as defined below) and the transactions contemplated thereby, we and the Purchasers agreed to amend the Warrants to reduce the exercise price per share of our common stock thereunder from $8.77 to $3.28.

Each Warrant has an exercise price of $3.28 per share, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, became exercisable on December 11, 2018, has a term of five and a half years from the date of issuance and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Warrants, in which case the Warrants shall also be exercisable on a cashless exercise basis.

2018 Purchase Agreements and Indenture for Scilex

On September 7, 2018, we entered into Purchase Agreements (the "2018 Purchase Agreements") with certain investors (collectively, the "Scilex Note Purchasers") and Scilex. Pursuant to the 2018 Purchase Agreements, on September 7, 2018, Scilex, among other things, issued and sold to the Scilex Note Purchasers senior secured notes due 2026 in an aggregate principal amount of $224,000,000 (the "Scilex Notes") for an aggregate purchase price of $140,000,000 (the "Offering"). In connection with the Offering, we also entered into an indenture (the "Indenture") governing the Scilex Notes with Scilex and U.S. Bank National Association, a national banking association, as trustee (the "Trustee") and collateral agent (the "Collateral Agent"). Pursuant to the Indenture, we agreed to irrevocably and unconditionally guarantee, on a senior unsecured basis, the punctual performance and payment when due of all obligations of Scilex under the Indenture (the "Guarantee").

The net proceeds of the Offering were approximately $89.3 million, after deducting the Offering expenses payable by Scilex and funding a segregated reserve account with $20.0 million (the "Reserve Account") and a segregated collateral account with $25.0 million (the "Collateral Account") pursuant to the terms of the Indenture. The net proceeds of the Offering will be used by Scilex to support the commercialization of ZTlido® (lidocaine topical system 1.8%), for working capital and general corporate purposes in respect of the commercialization of ZTlido® (lidocaine topical system 1.8%). Funds in the Reserve Account will be released to Scilex upon receipt by the Trustee of an officer's certificate under the Indenture from Scilex confirming receipt of a marketing approval letter from the FDA with respect to ZTlido® (lidocaine topical system 5.4%) or a similar product with a concentration of not less than 5% (the "Marketing Approval Letter") on or prior to July 1, 2023. Funds in the Collateral Account will be released to Scilex upon receipt of a written consent authorizing such release from the holders of a majority in principal amount of the Scilex Notes issued, upon the occurrence and during the continuance of an event of default at the direction of the holders of a majority in principal amount of the Scilex Notes issued or upon the repayment in full of all amounts owed under the Scilex Notes.

The holders of the Scilex Notes will be entitled to receive quarterly payments of principal of the Scilex Notes equal to a percentage, in the range of 10% to 20% of the net sales of ZTlido® (lidocaine topical system 1.8%) for the prior fiscal quarter, beginning on February 15, 2019. If Scilex has not received the Marketing Approval Letter by March 31, 2021, the percentage of net sales payable shall be increased to be in the range of 15% to 25%. If actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from October 1, 2022 through September 30, 2023 are less than 60% of a predetermined target sales threshold for such period, then Scilex will be obligated to pay an additional installment of principal of the Scilex Notes each quarter in an amount equal to an amount to be determined by reference to the amount of such deficiency.

The aggregate principal amount due under the Scilex Notes shall be increased by $28,000,000 on February 15, 2022 if actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from the issue date of the Scilex Notes through December 31, 2021 do not equal or exceed 95% of a predetermined target sales threshold for such period. If actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) for the period from October 1, 2022 through September 30, 2023 do not equal or exceed 80% of a predetermined target sales threshold for such period, the aggregate principal amount shall also be increased on November 15, 2023 by an amount equal to an amount to be determined by reference to the amount of such deficiency.

The final maturity date of the Scilex Notes will be August 15, 2026. The Scilex Notes may be redeemed in whole at any time upon 30 days' written notice at Scilex's option prior to August 15, 2026 at a redemption price equal to 100% of the then-outstanding principal amount of the Scilex Notes. In addition, upon a change of control of Scilex (as defined in the Indenture), each holder of a Scilex Note shall have the right to require Scilex to repurchase all or any part of such holder's Scilex Note at a repurchase price in cash equal to 101% of the then-outstanding principal amount thereof.

Oaktree Term Loan Agreement

On November 7, 2018, we and certain of our domestic subsidiaries (the "Guarantors") entered into a Term Loan Agreement (the "Loan Agreement") with certain funds and accounts managed by Oaktree Capital Management, L.P. (collectively, the "Lenders") and Oaktree Fund Administration, LLC, as administrative and collateral agent, for an initial term loan of $100.0 million (the "Initial Loan") and a second tranche of $50.0 million, subject to the achievement of certain commercial and financial milestones between August 7, 2019 and November 7, 2019, and the satisfaction of certain customary conditions (the "Conditional Loan"). The Initial Loan was funded on November 7, 2018. The net proceeds of the Initial Loan were approximately $91.3 million, after deducting estimated loan costs, commissions, fees and expenses, and will be used for general corporate purposes. In connection with the Loan Agreement, on November 7, 2018, we issued to the Lenders warrants to purchase 6,288,985 shares of our common stock (the "Initial Warrants"). The Initial Warrants have an exercise price per share of $3.28, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, will be exercisable from May 7, 2019 through May 7, 2029 and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Initial Warrants (the "Initial Warrant Shares"), in which case the Initial Warrants shall also be exercisable on a cashless exercise basis. If the Conditional Loan is

funded, we will issue to the Lenders additional warrants to purchase such number of shares of our common stock as is equal to 2% of our fully-diluted shares on the date the Conditional Loan is funded, subject to adjustment in certain circumstances (the "Conditional Warrants"). The Conditional Warrants will have an exercise price per share equal to the average volume-weighted average price of one share of our common stock for the ten trading days immediately preceding the date the Conditional Loan is funded, will be exercisable from the date that is six months following the date of issuance through the ten year anniversary of the date of issuance and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Conditional Warrants (the "Conditional Warrant Shares"), in which case the Conditional Warrants shall also be exercisable on a cashless exercise basis. In connection with the Loan Agreement, on November 7, 2018, we and the Lenders entered into a Registration Rights Agreement (the "Registration Rights Agreement") pursuant to which, among other things, we agreed to file one or more registration statements with the Securities and Exchange Commission (the "SEC") for the purpose of registering for resale the Initial Warrant Shares and the shares of common stock issuable upon exercise of the Conditional Warrants. Under the Registration Rights Agreement, we agreed to file a registration statement with the SEC registering all of the Initial Warrant Shares and the shares of common stock issuable upon exercise of the Conditional Warrants for resale by no later than the 45th day following the issuance of the Initial Warrants and the Conditional Warrants, respectively. On December 13, 2018, we filed a registration statement with the SEC registering all of the Initial Warrant Shares for resale, and such registration statement was declared effective by the SEC on December 21, 2018.

Acquired In-process Research and Development of BDL

In August 2015, we and TNK entered into a Stock Purchase Agreement (the "Stock Purchase Agreement") with BDL Products, Inc. ("BDL") and the stockholders of BDL (the "Stockholders") pursuant to which the Stockholders sold all of their shares of capital stock in BDL to TNK for: (1) a cash payment of $100.00, and (2) $6.0 million in shares of TNK Class A Stock, subject to adjustment in certain circumstances, to be issued to the Stockholders upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $50.0 million (a "Qualified Financing"). In accordance with subsequent amendments to the Stock Purchase Agreement, in the event a Qualified Financing did not occur by October 15, 2017 (subject to further extension as implied and based on previously amended dates) or TNK did not complete an initial public offering of shares of its capital stock by September 15, 2017, in lieu of receiving shares of TNK pursuant to the acquisition, the Stockholders would receive an aggregate of 309,916 shares of our common stock, subject to adjustment in certain circumstances. TNK did not complete a Qualified Financing by the financing deadline and we issued 309,916 shares of our common stock to the Stockholders on March 19, 2018.

Sofusa® Acquisition

On July 2, 2018, we entered into an Asset Purchase Agreement (the "Sofusa Purchase Agreement") with Kimberly-Clark Corporation ("KCC"); Kimberly-Clark Global Sales, LLC ("KCCGS"); and Kimberly-Clark Worldwide, Inc. ("KCCW" and together with KCC and KCCGS, "Kimberly-Clark") pursuant to which, among other things, we acquired certain of Kimberly-Clark's assets related to micro-needle drug delivery system, including the Sofusa® platform (the "Sofusa Assets") and related fixed assets, and assumed certain of Kimberly-Clark's liabilities related to the Sofusa Assets (the "Sofusa Acquisition"). The closing of the Sofusa Acquisition (the "Sofusa Closing") occurred on July 2, 2018. At the Sofusa Closing, we paid $10 million and agreed to pay additional consideration to Kimberly-Clark upon the achievement of certain regulatory and net sales milestones, as well as a percentage in the low double-digits of any non-royalty amounts received by us in connection with any license, sale or other grant of rights by us to develop or commercialize the Sofusa Assets (all such additional consideration, the "Sofusa Contingent Consideration"). Under the Sofusa Purchase Agreement, the aggregate amount of the Sofusa Contingent Consideration payable by us will not exceed $300.0 million. We also agreed to pay Kimberly-Clark a low single-digit royalty on all net sales with respect to the first five products developed by us or our licensees that utilizes intellectual property included in the Sofusa Assets. The transaction was accounted for as an asset acquisition since substantially all the value of the gross assets was concentrated in a single asset. Under the Asset Purchase Agreement, we acquired the Sofusa DoseDisc micro-needle technology designed to increase the efficacy of drug delivery by way of transdermal drug delivery for cash consideration of $10.0 million which was allocated based on the relative fair value of the assets acquired. No contingent consideration was recorded as of December 31, 2018 since the related regulatory approval milestones are not deemed probable until they actually occur. As a result, $9.5 million was expensed as a component of acquired in-process research and development and the remaining $0.5 million was recorded primarily to fixed assets as of December 31, 2018.

Results of Operations

The following discussion of our operating results explains material changes in our results of operations for the years ended December 31, 2018, 2017 and 2016. The discussion should be read in conjunction with the consolidated financial statements and related notes included elsewhere in this Form 10-K.

Comparison of the Years Ended December 31, 2018 and 2017

Revenues. Revenues were $21.2 million for the year ended December 31, 2018, as compared to $151.9 million for the year ended December 31, 2017. The net decrease of $130.7 million is primarily due to higher royalty and licensing activities in the prior year. Royalties and license revenues decreased $139.9 million for the year ended December 31, 2018 as compared to the same period of 2017 primarily due to higher licensing revenue associated with collaboration arrangements in the prior year including from the intangibles transferred to Celularity of approximately $116.2 million as a result of closing the Contribution Agreement in 2017 as well as the cancellation of the Servier agreement, which resulted in revenue of approximately $16.7 million. Sales and service revenues increased by $9.1 million as a result of the product launch of ZTlido® (lidocaine topical system 1.8%), which accounted for $2.6 million of the increase, as well as increased revenue generated from contract manufacturing services due to increased volume.

We expect that any revenue we generate will fluctuate from year to year as a result of the unpredictability of the demand for products and services offered as well as the timing and amount of grant awards, research and development reimbursements and other payments received under any strategic collaborations.

Cost of revenues. Cost of revenues for the years ended December 31, 2018 and 2017 were $7.1 million and $3.9 million, respectively. The increase is due primarily to increased contract manufacturing activities and higher direct materials and overhead costs for the year ended December 31, 2018 compared to the prior year period. The costs generally include employee salaries and benefits, direct materials and overhead costs including rent, depreciation, utilities, facility maintenance and insurance. The increase of approximately $3.1 million is primarily attributable to increased indirect costs associated with the higher sales and service revenues for next generation homogenous antibody drug conjugate development.

Research and Development Expenses. Research and development expenses for the years ended December 31, 2018 and 2017 were $77.0 million and $55.5 million, respectively. Research and development expenses include expenses associated with the ramp up of ZTlido® (lidocaine topical system 1.8%) as well as the costs related to our RTX program activities towards entering into future clinical trials, costs to identify, isolate and advance human antibody drug candidates derived from our libraries as well as advancing our ADC preclinical drug candidates, preclinical testing expenses and the expenses associated with fulfilling our development obligations related to the NIH grant awards (collectively the "NIH Grants"). Such expenses consist primarily of salaries and personnel related expenses, stock-based compensation expense, clinical development expenses, preclinical testing, lab supplies, consulting costs, depreciation and other expenses. The increase of approximately $21.4 million is attributable to increased clinical activities related to consulting and lab supply costs incurred in connection with our expanded research and development activities and activities to advance RTX into clinical trials and potentially pursue other development activities and regulatory related activities associated with ZTlido® (lidocaine topical system 1.8%). We expect research and development expenses to increase in absolute dollars as we: (i) advance RTX and our other product candidates into clinical trials and pursue other development, acquire, develop and manufacture clinical trial materials and increase other regulatory operating activities, (ii) incur incremental expenses associated with our efforts to further advance a number of potential product candidates into preclinical development activities, (iii) continue to identify and advance a number of fully human therapeutic antibody and ADC preclinical product candidates, (iv) incur higher salary, lab supply and infrastructure costs in connection with supporting all of our programs, (v) invest in our joint ventures, collaborations or other third party agreements, and (vi) expand our corporate infrastructure.

Acquired In-process Research and Development Expenses. Acquired in-process research and development expenses for the years ended December 31, 2018 and 2017 were $11.3 million and $26.1 million, respectively, with the decrease due to higher levels of acquisition related activities in the prior year. Acquired in-process research and development expenses for the year ended December 31, 2018 include costs associated with the acquisition of acquired in-process research and development from the Sofusa Purchase Agreement. Acquired in-process research and development expenses for the year ended December 31, 2017 include costs associated with the acquisition of acquired in-process research and development from Mabtech Limited.

General and Administrative Expenses. General and administrative expenses for the years ended December 31, 2018 and 2017 were $63.6 million and $38.3 million, respectively. General and administrative expenses consist primarily of salaries and personnel related expenses for executive, finance and administrative personnel, stock-based compensation expense, professional fees, infrastructure expenses, legal and accounting expenses and other general corporate expenses. The increase of $25.3 million is primarily attributable to higher employee related costs associated with additional headcount, stock-based compensation, legal costs related to acquisitions, general corporate and intellectual property matters, consulting and business development expenses and higher compliance costs associated with our public reporting obligations.

Intangible Amortization. Intangible amortization for the years ended December 31, 2018 and 2017 was $3.0 million and $2.6 million, respectively. The increase in the year ended December 31, 2018 as compared to the same period in 2017 is primarily due to the amortization of acquired in-process research and development upon commercialization of ZTlido® (lidocaine topical system 1.8%).

Gain on derivative liability. Gain on derivative liability for the year ended December 31, 2018 was $2.8 million compared to a derivative liability of $0 for the year ended December 31, 2017. The increase in the year ended December 31, 2018 as compared to the same period in 2017 is due to the change in fair value of the Conditional Warrants associated with the Oaktree Term Loan Agreement as further described in Note 12 in the Notes to Consolidated Financial Statements in this Form 10-K.

Loss (gain) on Contingent Liabilities. Contingent liabilities for the years ended December 31, 2018 and 2017 was $12.0 million and $54.3 million, respectively. The decrease in the year ended December 31, 2018 as compared to the same period in 2017 is primarily due to the settlements of Scilex and BDL liabilities for $38.2 million and $2.3 million, respectively, and the $11.3 million partial settlement of the Virttu financing milestone in shares of our common stock. The decrease was partially offset by a re-measurement of fair value resulting in a loss on contingent liabilities of $9.6 million during the year ended December 31, 2018.

Interest Expense. Interest expense for the years ended December 31, 2018 and 2017 was $57.6 million and $5.0 million, respectively. The increase in the year ended December 31, 2018 as compared to the same period in 2017 resulted primarily from the conversion during the year of the convertible notes issued in December 2017. The unamortized discount remaining at the date of conversion of $44.3 million was recognized immediately at that date as interest expense. An additional increase is primarily attributed to interest expense associated with the 2018 Securities Purchase Agreement in the Private Placement and Amendment to Warrants, the 2018 Oaktree Term Loan Agreement and Scilex Notes entered into in 2018.

Interest Income. Interest income for the years ended December 31, 2018 and 2017 was $0.9 million and $0.2 million, respectively.

Income tax benefit. Income tax benefit for the year ended December 31, 2018 was $6.3 million. Income tax benefit for the year ended December 31, 2017 was $36.0 million. The decrease in the year ended December 31, 2018 as compared to the same period in 2017 is primarily due to the reduction in deferred tax liabilities for Scilex.

Loss (income) on equity method investments. Loss on equity investments for the year ended December 31, 2018 was $5.0 million compared to a loss on equity investments of $40.2 million for the year ended December 31, 2017. (See Note 9 in the Notes to Consolidated Financial Statements in this Form 10-K).

Net (loss) income. Net loss for the year ended December 31, 2018 was $212.5 million as compared to net income of $11.1 million for 2017. The decrease in net income is mainly attributable to revenue recognized from the intangibles transferred to Celularity as a result of closing the contribution agreement in 2017.

Comparison of the Years Ended December 31, 2017 and 2016

Revenues. Revenues were $151.9 million for the year ended December 31, 2017, as compared to $8.2 million for the year ended December 31, 2016. The net increase of $143.7 million is primarily due to an increase in royalty and licensing activities for the year ended December 31, 2017 compared to the corresponding period of 2016. Royalties and license revenues increased $136.4 million for the year ended December 2017 as compared to the same period of 2016 primarily due to revenue recognized from the intangibles transferred to Celularity of approximately $116.2 million as a result of closing the Contribution Agreement in 2017 as well as the cancellation of the Servier agreement which resulted in revenue of approximately $16.0 million. Sales and service revenues generated from the sale of customized reagents and providing contract development services increased $8.2 million for the year ended December 2017 as compared to the same period of 2016.

We expect that any revenue we generate will fluctuate from year to year as a result of the unpredictability of the demand for products and services offered as well as the timing and amount of grant awards, research and development reimbursements and other payments received under any strategic collaborations.

Cost of revenues. Cost of revenues for the years ended December 31, 2017 and 2016 were $3.9 million and $0.8 million, respectively. The increase is due primarily to increased contract manufacturing activities and higher direct materials and overhead costs for the year ended December 31, 2017 compared to the prior year period. The costs generally include employee

salaries and benefits, direct materials and overhead costs including rent, depreciation, utilities, facility maintenance and insurance. We expect cost of revenues to fluctuate with related sales and service revenues

Research and Development Expenses. Research and development expenses for the years ended December 31, 2017 and 2016 were $55.5 million and $42.2 million, respectively. Research and development expenses include expenses associated with the ramp up of ZTlido® (lidocaine topical system 1.8%) as well as the costs related to our RTX program activities towards entering into future clinical trials, costs to identify, isolate and advance human antibody drug candidates derived from our libraries as well as advancing our ADC preclinical drug candidates, preclinical testing expenses and the expenses associated with fulfilling our development obligations related to the NIH grant awards (collectively the "NIH Grants"). Such expenses consist primarily of salaries and personnel related expenses, stock-based compensation expense, clinical development expenses, preclinical testing, lab supplies, consulting costs, depreciation and other expenses. The increase of $13.4 million is attributable to increased clinical activities related to consulting and lab supply costs incurred in connection with our expanded research and development activities and activities to advance RTX into clinical trials and potentially pursue other development activities and regulatory related activities associated with ZTlido® (lidocaine topical system 1.8%). We expect research and development expenses to increase in absolute dollars as we: (i) advance RTX and our other product candidates into clinical trials and pursue other development, acquire, develop and manufacture clinical trial materials and increase other regulatory operating activities, (ii) incur incremental expenses associated with our efforts to further advance a number of potential product candidates into preclinical development activities, (iii) continue to identify and advance a number of fully human therapeutic antibody and ADC preclinical product candidates, (iv) incur higher salary, lab supply and infrastructure costs incurred in connection with supporting all of our programs, (v) invest in our joint ventures, collaborations or other third party agreements, and (vi) expand our corporate infrastructure.

Acquired In-process Research and Development Expenses. Acquired in-process research and development expenses for the years ended December 31, 2017 and 2016 were $26.1 million and $45.0 million, respectively, with the decrease to due to higher levels of acquisition related activities in the prior year. Acquired in-process research and development expenses for the year ended December 31, 2017 include costs associated with the acquisition of acquired in-process research and development from Mabtech. Acquired in-process research and development expenses for the year ended December 31, 2016 include costs associated with the acquisition of acquired in-process research and development from Mabtech Limited and LA Cell.

General and Administrative Expenses. General and administrative expenses for the years ended December 31, 2017 and 2016 were $38.3 million and $24.2 million, respectively. General and administrative expenses consist primarily of salaries and personnel related expenses for executive, finance and administrative personnel, stock-based compensation expense, professional fees, infrastructure expenses, legal and accounting expenses and other general corporate expenses. The increase of $14.1 million is primarily attributable to higher salaries and related compensation expenses, stock-based compensation, legal costs related to acquisitions, general corporate and intellectual property matters, consulting and business development expenses and higher compliance costs associated with our public reporting obligations. We expect general and administrative expenses to increase in absolute dollars as we: (i) incur incremental expenses associated with expanded operations and development efforts, (ii) expand our efforts to ensure continued compliance with our public reporting obligations, (iii) build our infrastructure, and (iv) invest in our joint ventures, collaborations or other third party agreements.

Intangible Amortization. Intangible amortization for the years ended December 31, 2017 and 2016 was $2.6 million and $0.8 million, respectively. The increase in the year ended December 31, 2017 as compared to the same period in 2016 is due to the impact of the acquisition of Scilex and the start of patent right amortization in 2017.

Gain on derivative liability. Gain on derivative liability for the year ended December 31, 2017 was $0 compared to a gain on derivative liability of $5.5 million for the year ended December 31, 2016. The decrease in the year ended December 31, 2017 as compared to the same period in 2016 is due to the expiration of the unexercised derivative liability on March 31, 2016 associated with the cancelled call option on shares of NantKwest, Inc. stock.

Interest Expense. Interest expense for the years ended December 31, 2017 and 2016 was $5.0 million and $1.6 million, respectively.

Interest Income. Interest income for the years ended December 31, 2017 and 2016 was $0.2 million and $0.3 million, respectively.

Income tax benefit. Income tax benefit for the year ended December 31, 2017 was $36.0 million. Income tax benefit for the year ended December 31, 2016 was $0.9 million. The increase in the year ended December 31, 2017 as compared to the same period in 2016 is primarily due to re-measurement adjustments related to the impact of U.S. tax reform under the Tax Cut and Jobs Act which was enacted on December 22, 2017.

Loss on equity method investments. Loss on equity investments for the year ended December 31, 2017 was $40.2 million compared to a gain on equity investments of $0.4 million for the year ended December 31, 2016. The decrease was primarily due to the recognition of other-than-temporary impairment associated with our equity method investment in NANTibody for the year ended December 31, 2017. (See Note 9 in the Notes to Consolidated Financial Statements in this Form 10-K).

Net (loss) income. Net income (loss) for the years ended December 31, 2017 and 2016 was $11.1 million and $(63.9) million, respectively. The increase in net income is mainly attributable to revenue recognized from the intangibles transferred to Celularity as a result of closing the Contribution Agreement in 2017.

Liquidity and Capital Resources

As of December 31, 2018, we had $158.7 million in cash and cash equivalents attributable in part to the following financing arrangements:

On June 13, 2018, pursuant to the Securities Purchase Agreement, we issued and sold to the Purchasers, in the Private Placement (1) Notes in an aggregate principal amount of $37,848,750, and (2) Warrants to purchase an aggregate of 2,698,662 shares of our common stock.

On September 7, 2018, Scilex entered into the 2018 Purchase Agreements with the Purchasers and us. Pursuant to the 2018 Purchase Agreements, on September 7, 2018, Scilex, among other things, issued and sold to the Purchasers the Notes with an aggregate principal of $224.0 million for an aggregate purchase price of $140.0 million. The net proceeds of the Offering were approximately $89.3 million, after deducting the Offering expenses payable by Scilex and funding the Reserve Account ($20.0 million) and the Collateral Account ($25.0 million) pursuant to the terms of the Indenture. In connection with the Offering, Scilex also entered into the Indenture governing the Notes with the Trustee and Collateral Agent and us. Pursuant to the Indenture, we agreed to the Guarantee.

On November 7, 2018, we and the Guarantors entered into the Loan Agreement with the Lenders and Oaktree Fund Administration, LLC, as administrative and collateral agent, for the Initial Loan and the Conditional Loan. The Initial Loan was funded on November 7, 2018. The net proceeds of the Initial Loan were approximately $91.3 million, after deducting estimated loan costs, commissions, fees and expenses.

Cash Flows from Operating Activities. Net cash used for operating activities was $111.8 million for the twelve months ended December 31, 2018 as compared to $99.2 million for the twelve months ended December 31, 2017. Net cash used in 2018 reflects a net loss of $212.5 million, which was partially offset by non-cash interest expense charges of $52.8 million, as well as other non-cash charges totaling $41.9 million, primarily related to depreciation and amortization, stock based compensation, charges related to acquired IPR&D, loss on debt extinguishment, loss on equity investments and loss on contingent liabilities. Net cash used for operating activities was $99.2 million for 2017 and was primarily due to an increase in cash flow associated with accrued payroll, deferred rent, accrued expenses and other operating activities.

We expect to continue to incur substantial and increasing losses and negative net cash flows from operating activities as we seek to expand and support our clinical and pre-clinical development and research activities, and continue to support the commercial launch of ZTlido® and fund our joint ventures, collaborations and other third party agreements.

Cash Flows from Investing Activities. Net cash used for investing activities was $21.2 million for 2018 as compared to $16.5 million for 2017. Our investing activities used $11.2 million to acquire equipment and building improvements. Additionally, we used $10.0 million for the Sofusa Purchase Agreement. In 2017, investing activities used $11.0 million to acquire equipment and building improvements as well as $5.0 million related to our investment in Celularity.

We expect to increase our investment in equipment and implement facility improvements as we seek to expand and progress our research and development capabilities.

Cash Flows from Financing Activities. Net cash provided by financing activities was $326.0 million for 2018, which was primarily attributed to the net proceeds from the issuance of convertible notes in connection with the Securities Purchase Agreement, net proceeds from the issuance of the Scilex Notes, and net proceeds from the Initial Loan related to the Loan Agreement. Additional cash was provided by the issuance of common stock upon the exercise of stock options. Net cash provided by financing activities was $53.7 million for 2017, which was primarily from the net proceeds from the issuance of common stock and the issuance of the Notes in the Private Placement partially offset by the repayment of the Hercules loan.

Future Liquidity Needs. We have principally financed our operations through underwritten public offerings and private equity financings with aggregate net proceeds of $295.1 million since inception, as we have not generated any significant product related revenue from our principal operations to date, and do not expect to generate significant revenue for several years, if ever. We will need to raise additional capital before we exhaust our current cash resources in order to continue to fund our research and development, including our plans for clinical and preclinical trials and new product development, as well as to fund operations generally. As and if necessary, we will seek to raise additional funds through various potential sources, such as equity and debt financings or through corporate collaboration and license agreements. We can give no assurances that we will be able to secure such additional sources of funds to support our operations, or, if such funds are available to us, that such additional financing will be sufficient to meet our needs. These conditions, among others, raise substantial doubt about our ability to continue as a going concern.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If we issue additional equity securities to raise funds, the ownership percentage of existing stockholders would be reduced. New investors may demand rights, preferences or privileges senior to those of existing holders of common stock. 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 one or more of our product candidates. We may also seek collaborators for one or more of our current or future product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available. These factors raise substantial doubt about our ability to continue as a going concern. Our financial statements and related notes thereto included elsewhere in this Annual Report on Form 10-K do not include any adjustments that might result from the outcome of this uncertainty.

We anticipate that we will continue to incur net losses into the foreseeable future as we: (i) advance RTX and other product candidates into clinical trials, (ii) continue to identify and advance a number of potential mAb and ADC product candidates into preclinical development activities, (iii) continue our development of, and seek regulatory approvals for, our product candidates, (iv) expand our corporate infrastructure, including the costs associated with being a Nasdaq listed public company, and (v) incur our share of joint venture and collaboration costs for our products and technologies.

We plan to continue to fund our operating losses and capital funding needs through public or private equity or debt financings, strategic collaborations, licensing arrangements, asset sales, government grants or other arrangements.

In November 2017, we filed a universal shelf registration statement on Form S-3 (the “2017 Shelf Registration Statement”) with the SEC, which was declared effective by the SEC in December 2017. The 2017 Shelf Registration Statement provides us with the ability to offer up to $350 million of securities, including equity and other securities as described in the registration statement. Included in the 2017 Shelf Registration Statement is a sales agreement prospectus covering the offering, issuance and sale by us of up to a maximum aggregate offering price of $100.0 million of our common stock that may be issued and sold under a sales agreement with B. Riley FBR, Inc. (the “ATM Facility”). During the twelve months ended December 31, 2018, we sold approximately $83.6 million in shares of common stock under the ATM Facility. We can offer up to $15.5 million of additional shares of common stock under the ATM Facility, subject to certain limitations.

Pursuant to this Shelf Registration Statement, we may offer such securities from time to time and through one or more methods of distribution, subject to market conditions and our capital needs. Specific terms and prices will be determined at the time of each offering under a separate prospectus supplement, which will be filed with the SEC at the time of any offering.

If we raise additional funds by issuing equity securities, substantial dilution to existing stockholders would result. If we raise additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations as well as covenants and specific financial ratios that may restrict our ability to operate our business.

Uses of Cash. We have and plan to expand our business and intellectual property portfolio through the acquisition of new businesses and technologies as well as entering into licensing arrangements.

Acquisition of Virttu Biologics Limited

On April 27, 2017, we entered into a Share Purchase Agreement (the “Virttu Purchase Agreement”) with TNK Therapeutics, Inc., a majority-owned subsidiary of ours (“TNK”), Virttu Biologics Limited (“Virttu”), the shareholders of Virttu (the “Virttu Shareholders”) and Dayspring Ventures Limited, as the representative of the Virttu Shareholders, pursuant to which, among other things, TNK acquired from the Virttu Shareholders 100% of the outstanding ordinary shares of Virttu (the “Virttu Acquisition”).

We issued an aggregate of 1,795,011 shares of our common stock to the Virttu Shareholders on April 27, 2018 for a value of $11.3 million. As of December 31, 2018, approximately $9.9 million payable in cash related to acquisition consideration has not been paid as of the date of this filing. See further discussion in Note 4 in the Notes to Consolidated Financial Statements in this Form 10-K.

Acquisition of Scilex Pharmaceuticals Inc.

On November 8, 2016, we entered into a Stock Purchase Agreement (the "Scilex Purchase Agreement") with Scilex and a majority of the stockholders of Scilex (the "Scilex Stockholders") pursuant to which, on November 8, 2016, we acquired from the Scilex Stockholders, and the Scilex Stockholders sold to us, approximately 72% of the outstanding capital stock of Scilex (the "Scilex Acquisition"), which remains a stand-alone company. The remainder of the outstanding capital stock of Scilex represents a noncontrolling interest of which approximately 19.3% continues to be held by ITOCHU CHEMICAL FRONTIER CORPORATION following the Scilex Acquisition.

Under the terms of the Scilex Purchase Agreement, we agreed to provide additional consideration to the Accredited Scilex Stockholders upon the achievement of certain milestones, as further discussed in Note 4 in the Notes to Consolidated Financial Statements in this Form 10-K. In 2018, we paid $22.5 million of remaining contingent consideration for regulatory milestones related to the Scilex Purchase Agreement.

Sofusa® Acquisition

On July 2, 2018, we entered into an Asset Purchase Agreement (the "Sofusa Purchase Agreement") with Kimberly-Clark Corporation ("KCC"); Kimberly-Clark Global Sales, LLC ("KCCGS"); and Kimberly-Clark Worldwide, Inc. ("KCCW" and together with KCC and KCCGS, "Kimberly-Clark") pursuant to which, among other things, we acquired certain of Kimberly-Clark's assets related to micro-needle drug delivery system, including the Sofusa® platform (the "Sofusa Assets") and related fixed assets, and assumed certain of Kimberly-Clark's liabilities related to the Sofusa Assets (the "Sofusa Acquisition"). The closing of the Sofusa Acquisition (the "Sofusa Closing") occurred on July 2, 2018. At the Sofusa Closing, we paid $10 million and agreed to pay additional consideration to Kimberly-Clark upon the achievement of certain regulatory and net sales milestones, as well as a percentage in the low double-digits of any non-royalty amounts received by us in connection with any license, sale or other grant of rights by us to develop or commercialize the Sofusa Assets (all such additional consideration, the "Sofusa Contingent Consideration"). Under the Sofusa Purchase Agreement, the aggregate amount of the Sofusa Contingent Consideration payable by us will not exceed $300.0 million. We also agreed to pay Kimberly-Clark a low single-digit royalty on all net sales with respect to the first five products developed by us or our licensees that utilizes intellectual property included in the Sofusa Assets. The transaction was accounted for as an asset acquisition since substantially all the value of the gross assets was concentrated in a single asset. Under the Asset Purchase Agreement, we acquired the Sofusa DoseDisc micro-needle technology designed to increase the efficacy of drug delivery by way of transdermal drug delivery for cash consideration of $10.0 million which was allocated based on the relative fair value of the assets acquired. No contingent consideration has been recorded at December 31, 2018 since the related regulatory approval milestones are not deemed probable until they actually occur. As a result, $9.5 million was expensed as a component of acquired in-process research and development and the remaining $0.5 million was recorded primarily to fixed assets as of December 31, 2018.

Critical Accounting Policies

Our consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

We believe the following accounting policies and estimates are most critical to aid in understanding and evaluating our reported financial results.

Stock-Based Compensation. We account for stock-based compensation in accordance with authoritative guidance for stock-based compensation, which requires us to measure the cost of employee services received in exchange for equity incentive awards, including stock options, based on the grant date fair value of the award. The fair value is estimated using the Black-Scholes option pricing model. The resulting cost is recognized over the period during which the employee is required to provide services in exchange for the award, which is usually the vesting period. We recognize compensation expense over the vesting period using the straight-line method and classify these amounts in the consolidated statements of operations based on the department to which the related employee reports. To the extent that we issue future stock incentive awards to employees,

our stock-based compensation expense will be increased by the additional unearned compensation resulting from such additional issuances. (See Note 13 in the Notes to the Consolidated Financial Statements in this Form 10-K).

We account for equity instruments, including restricted stock or stock options, issued to non-employees in accordance with authoritative guidance for equity based payments to non-employees. Stock options issued to non-employees are accounted for at their estimated fair value determined using the Black-Scholes option-pricing model. The fair value of options granted to non-employees is re-measured as they vest, and the resulting increase in value, if any, is recognized as expense during the period the related services are rendered. Restricted stock issued to non-employees is accounted for at its estimated fair value upon vesting. We evaluate the assumptions used to value stock awards to non-employees on a periodic basis. If factors change and we employ different assumptions, including any significant change to the inputs used in the option pricing models to determine the fair value, stock-based compensation expense may differ significantly from what we have recorded historically. In addition, to the extent that we issue future stock incentive awards to non-employees, our stock-based compensation expense will be increased by the additional unearned compensation resulting from such additional issuances.

Revenue Recognition. Our revenues are generated from various NIH grant awards, license fees, product sales, the sale of customized reagents and other materials, and the provision of contract manufacturing and other services. We do not have significant costs associated with costs to obtain contracts with our customers. Substantially all of our grants and accounts receivable result from contracts with customers.

License fees for the licensing of product rights are recorded as deferred revenue upon receipt of cash and recognized as revenue on a straight-line basis over the license period, with the exception of license agreements with no remaining performance obligations or undelivered obligations.

Revenues from sales and services are generated from product sales, the sale of customized reagents and providing contract manufacturing services. Reagents are used for preparing ADCs, these reagents include industrial standard cytotoxins, linkers, and linker-toxins. The contract development services include providing synthetic expertise to customer’s synthesis by delivering them proprietary cytotoxins, linkers and linker-toxins and ADC service using industry standard toxin and antibodies provided by customers. Product sales include the sale of ZTlido® (lidocaine topical system 1.8%).

We recognize revenue when control of the products is transferred to the customers in an amount that reflects the consideration we expect to receive from the customers in exchange for those products and services. This process involves identifying the contract with a customer, determining the performance obligations in the contract and the contract price, allocating the contract price to the distinct performance obligations in the contract and recognizing revenue when the performance obligations have been satisfied. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. We consider a performance obligation satisfied once we have transferred control of a good or service to the customer, meaning the customer has the ability to use and obtain the benefit of the good or service. We recognize revenue for satisfied performance obligations only when we determine there are no uncertainties regarding payment terms or transfer of control. (See Note 3 in the Notes to Consolidated Financial Statements in this Form 10-K).

For Scilex product sales, we record gross-to-net sales adjustments for government and managed care rebates, chargebacks, wholesaler fees, sales returns and prompt payment discounts. These are generally accounted for as variable consideration estimated in the same period the related sales occur. Government and other rebates and chargebacks represent the majority of our variable consideration and require complex and significant judgment. Estimates are assessed each period and updated to reflect current information. There was no material variable consideration for Scilex product sales during the year ended December 31, 2018.

Investments in Other Entities. We hold a portfolio of investments in equity securities that are accounted for under either the equity method or cost method. Investments in entities over which we have significant influence but not a controlling interest are accounted for using the equity method, with our share of earnings or losses reported in loss on equity investments.

All investments are reviewed on a regular basis for possible impairment. If an investment's fair value is determined to be less than its net carrying value and the decline is determined to be other-than-temporary, the investment is written down to its fair value. Such an evaluation is judgmental and dependent on specific facts and circumstances. Factors considered in determining whether an other-than-temporary decline in value has occurred include: the magnitude of the impairment and length of time that the estimated market value was below the cost basis; financial condition and business prospects of the investee; our intent and ability to retain the investment for a sufficient period of time to allow for recovery in market value of the investment; issues that raise concerns about the investee's ability to continue as a going concern; any other information that

we may be aware of related to the investment. We do not report the fair value of our equity investments in non-publicly traded companies because it is not practical to do so. (See Note 9 in the Notes to Consolidated Financial Statements in this Form 10-K).

Debt, Including Debt With Detachable Warrants. Debt with detachable warrants are evaluated for the classification of warrants as either equity instruments, derivative liabilities, or liabilities depending on the specific terms of the warrant agreement. In circumstances in which debt is issued with equity-classified warrants, the proceeds from the issuance of convertible debt are first allocated to the debt and the warrants at their relative estimated fair values. The portion of the proceeds so allocated to the warrants are accounted for as paid-in capital and a debt discount. The remaining proceeds, as further reduced by discounts created by the bifurcation of embedded derivatives and beneficial conversion features, are allocated to the debt. We account for debt as liabilities measured at amortized cost and amortize the resulting debt discount from the allocation of proceeds, to interest expense using the effective interest method over the expected term of the debt instrument. We consider whether there are any embedded features in debt instruments that require bifurcation and separate accounting as derivative financial instruments pursuant to ASC 815, *Derivatives and Hedging.*

If the amount allocated to the convertible debt results in an effective per share conversion price less than the fair value of our common stock on the commitment date, the intrinsic value of this beneficial conversion feature is recorded as a discount to the convertible debt with a corresponding increase to additional paid in capital. The beneficial conversion feature discount is equal to the difference between the effective conversion price and the fair value of our common stock at the commitment date, unless limited by the remaining proceeds allocated to the debt.

We may enter financing arrangements, the terms of which involve significant assumptions and estimates, including future net product sales, in determining interest expense, amortization period of the debt discount, as well as the classification between current and long-term portions. In estimating future net product sales, we assess prevailing market conditions using various external market data against our anticipated sales and planned commercial activities. See Note 12 in the Notes to Consolidated Financial Statements in this Form 10-K for our discussion of the Scilex Notes, which include repayments based on a percentage of net sales of ZTlido® (lidocaine topical system 1.8%). Consequently, we impute interest on the carrying value of the debt and record interest expense using an imputed effective interest rate. We reassess the expected payments each reporting period and account for any changes through an adjustment to the effective interest rate on a prospective basis, with a corresponding impact to the classification of our current and long-term portions.

Income Taxes. The provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 740-10, *Uncertainty in Income Taxes*, address the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under ASC Topic 740-10, we may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. We have determined that we have uncertain tax positions.

We account for income taxes using the asset and liability method to compute the differences between the tax basis of assets and liabilities and the related financial amounts, using currently enacted tax rates.

We have deferred tax assets, which are subject to periodic recoverability assessments. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount that more likely than not will be realized. As of December 31, 2018, we maintained a full valuation allowance against our deferred tax assets, with the exception of an amount equal to our deferred tax liabilities.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation referred to as the Tax Cuts and Jobs Act (the "Tax Act''), which significantly revises the Internal Revenue Code of 1986, as amended. The Tax Act contains, among other things, significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21% for tax years beginning after December 31, 2017, limitations on the deduction for net operating losses to 80% of current year taxable income, indefinite carryover period for net operating losses and limitations on the deductibility of interest to 30% of adjusted taxable income.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118"), which allowed us to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. As of December 22, 2018, our accounting for the Tax Act was complete and there were no material changes to the provisional amounts previously recorded.

Goodwill and Other Long-Lived Assets. Goodwill, which has an indefinite useful life, represents the excess of cost over fair value of net assets acquired. Goodwill is reviewed for impairment at least annually during the fourth quarter, or more frequently if events occur indicating the potential for impairment. During our goodwill impairment review, we may assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. The qualitative factors include, but are not limited to, macroeconomic conditions, industry and market considerations, and the overall financial performance of the Company. If, after assessing the totality of these qualitative factors, we determine that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then no additional assessment is deemed necessary. Otherwise, we proceed to perform the two-step test for goodwill impairment. The first step involves comparing the estimated fair value of the reporting unit with its carrying value, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, we perform the second step of the goodwill impairment test to determine the amount of loss, which involves comparing the implied fair value of the goodwill to the carrying value of the goodwill. We may also elect to bypass the qualitative assessment in a period and elect to proceed to perform the first step of the goodwill impairment test. We performed an annual assessment for goodwill impairment in the fourth quarter of 2018, noting no impairment and that the fair value of the goodwill exceeded the carrying value by a significant margin. There have not been any triggering events indicating the potential for impairment through December 31, 2018.

In determining the fair value utilized in the goodwill impairment assessment, we consider qualitative factors such as changes in strategy, cash flows and the regulatory environment as well as the market capitalization of our publicly traded common stock. Our share price is highly volatile and although there was significant excess of fair value over book value at the annual impairment assessment date as well as December 31, 2018, there have been subsequent declines in the market share price and there could be risk of impairment in the future.

It is not possible at this time to determine if an impairment charge would result from these factors, or, if it does, whether such charge would be material. We will continue to monitor the recoverability of goodwill.

We evaluate our long-lived and intangible assets with definite lives, such as property and equipment, acquired technology, customer relationships, patent and license rights, for impairment by considering competition by products prescribed for the same indication, the likelihood and estimated future entry of non-generic and generic competition with the same or similar indication and other related factors. The factors that drive the estimate of useful life are often uncertain and are reviewed on a periodic basis or when events occur that warrant review. Recoverability is measured by comparison of the assets' book value to future net undiscounted cash flows that the assets are expected to generate. There have not been any impairment losses of long-lived assets through December 31, 2018.

Acquisitions and Intangibles. We have engaged in business combination activity. The accounting for business combinations requires management to make judgments and estimates of the fair value of assets acquired, including the identification and valuation of intangible assets, as well as liabilities assumed. Such judgments and estimates directly impact the amount of goodwill recognized in connection with each acquisition, as goodwill presents the excess of the purchase price of an acquired business over the fair value of its net tangible and identifiable intangible assets.

Acquired In-Process Research and Development Expense. We have acquired and may continue to acquire the rights to develop and commercialize new drug candidates. The up-front payments to acquire a new drug compound or drug delivery devices, as well as future milestone payments associated with asset acquisitions that do not meet the definition of derivative and are deemed probable to achieve the milestones, are immediately expensed as acquired in-process research and development provided that the drug has not achieved regulatory approval for marketing and, absent obtaining such approval, have no alternative future use. The acquired in-process research and development related to the business combination of Virttu, for which certain products are under development and expected to be commercialized in the future, was capitalized and recorded within "Intangibles, net" on the accompanying consolidated balance sheet. We commenced amortization of acquired in-process research and development related to the business combination of Scilex upon commercialization of ZTlido® (lidocaine topical system 1.8%) in October 2018. Capitalized in-process research and development will be reviewed annually for impairment or more frequently as changes in circumstance or the occurrence of events suggest that the remaining value may not be recoverable. (See Note 4 in the Notes to Consolidated Financial Statements in this Form 10-K for further discussion of acquired in-process research and development expense related to the Sofusa acquisition).

Acquisition Consideration Payable - Gain or Loss on Contingent Liabilities. Acquisition consideration payable relates to our acquisition of businesses and various other assets and is recorded on our consolidated balance sheets at fair value and is re-measured at each balance sheet date until such contingent liabilities have been settled, with changes in fair value recorded as gain on contingent liabilities. We estimate the fair value of contingent consideration based on level 3 inputs primarily driven by the probability of achieving certain financing or operating related milestones.

Contractual Obligations

As of December 31, 2018, our contractual obligations are as follows (in thousands):

	Payments Due by Fiscal Year				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Convertible Notes (1)	$ 47,311	$ 1,982	$ 3,784	$ 41,545	$ —
Scilex Notes (1)	224,000	8,696	82,484	132,820	—
Oaktree Term Loan (1)	145,495	9,375	18,750	117,370	—
Operating leases	91,710	6,396	16,744	16,145	52,425
Total financial obligations	$ 508,516	$ 26,449	$ 121,762	$ 307,880	$ 52,425

(1) See Note 12 in the Notes to Consolidated Financial Statements in this Form 10-K.

Off-Balance Sheet Arrangements

From our inception through December 31, 2018, we did not engage in any off-balance sheet arrangements, as defined in Item 303(a)(4) of Regulation S-K.

Recent Accounting Pronouncements

Refer to Note 3, “Nature of Operations and Summary of Significant Accounting Polices,” in the Notes to Consolidated Financial Statements in this Form 10-K for a discussion of recent accounting pronouncements.

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

Interest Rate Risk. Our exposure to market risk is confined to our cash and cash equivalents and debt securities. We have cash and cash equivalents and invest primarily in high-quality money market funds, which we believe are subject to limited credit risk. Due to the low risk profile of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our portfolio. We do not believe that we have any material exposure to interest rate risk arising from our investments.

The fair market value of our Loan Agreement is subject to interest rate risk as a portion of the interest rate fluctuates based on the LIBOR. Generally, the fair market value of the debt will vary as interest rates increase or decrease. We had $100.0 million outstanding under our Loan Agreement at December 31, 2018. The weighted average stated interest rate on these borrowings is 9.38% as of December 31, 2018. A hypothetical 100 basis point adverse move in interest rates would increase our annual interest expense by approximately $1.0 million. We have determined that there was no material market risk exposure from such instruments to our consolidated financial position, results of operations or cash flows as of December 31, 2018.

We are not subject to interest rate risk on the Notes issued in 2018 in connection with our Securities Purchase Agreement as the Notes have a fixed rate of 5.00%. We are not subject to interest rate risk on the Scilex Notes associated with our 2018 Purchase Agreements as repayment of the Scilex Notes is determined by projected net sales as further discussed in Note 12 in the Notes to Consolidated Financial Statements in this Form 10-K. For both the Notes and Scilex Notes, changes in interest rates will generally affect the fair value of the debt instrument, but not our earnings or cash flows.

Capital Market Risk. We currently do not have significant revenues from grants or sales and services and we have no product revenues from our planned principal operations and therefore depend on funds raised through other sources. One source of funding is through future debt or equity offerings. Our ability to raise funds in this manner depends upon, among other things, capital market forces affecting our stock price.

Item 8. Financial Statements and Supplementary Data.

Our consolidated financial statements and supplementary data required by this item are set forth at the pages indicated in Item 15(a)(1) and (a)(2), respectively, of this Form 10-K.

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

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported within the time periods specified in the SEC's regulations, rules and forms and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow for timely decisions regarding required disclosure.

In designing and evaluating the Company's disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. As required by Rule 13a-15(b) promulgated by the SEC under the Exchange Act, we carried out an evaluation, under the supervision and with the participation of our management, including our chief executive officer and chief financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this Form 10-K. Based on the foregoing, our chief executive officer and chief financial officer concluded that our disclosure controls and procedures were not effective as of the end of the period covered by this Form 10-K as a result of the material weaknesses described below.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for our company. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) promulgated under the Exchange Act, as a process designed by, or under the supervision of, a company's principal executive officer and chief financial officer and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP and includes those policies and procedures that:

(1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;

(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the company are being made in accordance with authorizations of management and directors of the company; and

(3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible enhancements to controls and procedures.

We conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In connection with the restatement of the Company's interim condensed consolidated financial statements for the three and nine months ended September 30, 2017 to correct a material error in our equity method investments, our management identified a material weakness in our review controls, that were not operating effectively to provide reasonable assurance that we timely identify and assess the accounting implications of transactions and events occurring at our equity method investees and properly report such investee financial information in our financial statements.

During 2018, the Company undertook remediation measures by enhancing existing internal controls with respect to our equity method investments. These include additional procedures to search for and assess information related to our equity method investees, including but not limited to financial statements and publicly available information, to evaluate related accounting implications. As a result of consistent and precise performance of these controls, the Company concluded that they were operating effectively and the related material weakness identified in prior year was remediated as of December 31, 2018.

In March 2018, in connection with the preparation of our 2017 financial statements, we identified that the accounting implications of terms in certain unusual or non-recurring and significant agreements were not identified and assessed on a timely basis. Further, valuation of certain associated assets or liabilities were not properly reassessed at the end of each reporting period. The material weakness did not result in a restatement of previously issued annual consolidated financial statements or condensed interim consolidated financial statements.

During 2018, the Company undertook remediation measures, including designing new controls and enhancing existing internal controls which, if effectively implemented, would provide reasonable assurance that we timely and precisely (1) identify and assess the accounting implications of terms in unusual or non-recurring and significant agreements and (2) reassess the valuation of associated assets or liabilities at the end of each reporting period. These included measures designed to improve centralized documentation control, improve the internal communication procedures between senior executive management, accounting personnel, and related business owners, leverage external accounting experts as appropriate to perform the necessary reviews, and strengthen policies and procedures related to the transferring of responsibilities and the handoff of personnel duties. However, in connection with the preparation of our consolidated financial statements for the year ended December 31, 2018 there were multiple errors identified related to management's review of significant agreements. We believe the errors identified are due to deficiencies in our internal control environment resulting from insufficient competent

accounting resources, including a Chief Accounting Officer, to effectively operate internal controls over financial reporting in a timely manner.

This ineffective control environment contributed to the following material weaknesses: (i) management did not adequately evaluate the underlying assumptions associated with the accounting for key terms identified in significant agreements, which in the current year included convertible notes and debt agreements and (ii) management did not accurately assess the significant assumptions in order to properly estimate the fair value of contingent consideration liabilities. We also identified the following deficiencies in our internal control environment resulting from insufficient accounting resources that collectively represent a material weakness: Management did not properly assess significant assumptions through the performance of precise reviews of accounting estimates including probability of occurrence and assumptions used in evaluating the fair value of embedded derivatives, fair value of indefinite-lived intangible assets, and income tax related balances. Such material weaknesses could result in material misstatements of the aforementioned account balances or disclosures in the annual or interim consolidated financial statements that would not be prevented or detected.

Accordingly, our chief executive officer and chief financial officer concluded that, at December 31, 2018, our internal control over financial reporting was not effective. Notwithstanding the material weaknesses in our internal control over financial reporting, based on the additional analyses and procedures performed, we believe the consolidated financial statements included in our Annual Report on Form 10-K, are fairly presented in all material respects, in conformity with accounting principles generally accepted in the United States of America.

The effectiveness of our internal control over financial reporting at December 31, 2018 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Remediation Efforts to Address Material Weaknesses

As a result of the material weaknesses, we are in the process of implementing remediation measures including, but not limited to, performing a comprehensive assessment of accounting and finance resource requirements and hiring a Chief Accounting Officer and other personnel with sufficient accounting expertise to improve the operating effectiveness of the Company's review controls and monitoring activities, and utilizing external accounting experts as appropriate. We believe that our remediation measures, if effectively implemented, will provide reasonable assurance that we timely identify terms in agreements that could have material accounting implications, assess the accounting and disclosure implications of the terms, and account for such items in the financial statements appropriately. Any failure to implement these improvements to our internal control over financial reporting would result in continued material weaknesses in our internal control and could impact our ability to produce reliable financial reports, effectively manage the company or prevent fraud, and could potentially harm our business and our performance.

Changes in Internal Control Over Financial Reporting

Except the remediation of the prior year material weakness in relation to the review control of equity method investments, there has been no change in our internal control over financial reporting during the quarter ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. As identified above under "Management's Annual Report on Internal Control Over Financial Reporting," material weaknesses were identified in our internal control over financial reporting as of December 31, 2018. Our plans for remediating such material weaknesses, which would constitute changes in our internal control over financial reporting prospectively when such controls are effectively implemented, are also enumerated above.

Item 9B. Other Information.

Effective as of March 15, 2019, we amended and restated our Bylaws (the "Amended and Restated Bylaws") to provide for, among other things the following changes from our Bylaws, as in effect immediately prior to the adoption of the Amended and Restated Bylaws:

Article I, Section 1(1): The Amended and Restated Bylaws delete the requirement that the annual meeting of stockholders be held within 13 months of the last annual meeting of stockholders and provide that such an annual meeting may be held at such place or by means of remote communication as our board of directors may determine in its sole discretion.

Article I, Section 1(2): The Amended and Restated Bylaws add the requirement that a stockholder must be a stockholder of record entitled to vote at the time of the annual meeting in order to nominate a director or propose other business at such a meeting.

Article I, Sections 1(4)-1(9): The Amended and Restated Bylaws update the advance notice provisions by which a stockholder (the "Proposing Person") may propose business that is not submitted for inclusion in our proxy materials in connection with an annual meeting of the stockholders and nominations in connection with an annual or special meeting of the stockholders. The amendments require, among other things, (i) that the Proposing Person deliver a proxy statement and form of proxy to holders of at least the percentage of our stockholders required under applicable law to carry the relevant proposal, or in the case of a nomination, at least the percentage of our stockholders reasonably believed to be sufficient to elect such nominee, (ii) that the Proposing Person's notice to us contain certain information regarding the proposal and certain information, representations, consents and undertakings regarding the Proposing Person, (iii) that any proposed nominee for election provide a completed written questionnaire regarding such proposed nominee's background and qualifications, a written representation and agreement regarding the proposed nominee's voting, third party compensation and compliance with our policies and such proposed nominee's fiduciary duties and any other information our board may reasonably require, and (iv) that the Proposing Person must appear in person at the meeting to propose such business or nomination.

Article I, Section 2: The Amended and Restated Bylaws update the provisions regarding special meetings of the stockholders to implement the updated requirements of Article I, Section 1 of the Amended and Restated Bylaws.

Article I, Section 3: The Amended and Restated Bylaws allow the Board to postpone, reschedule, or cancel any previously scheduled special or annual meeting of stockholders before it is held.

Article I, Section 4: The Amended and Restated Bylaws clarify that any of our stock held, directly or indirectly, by us is not entitled to vote or counted for purposes of establishing a quorum; however, this limit does not apply to our ability to vote any stock held by us in a fiduciary capacity and count such stock for purposes of establishing a quorum.

Article I, Section 7: The Amended and Restated Bylaws clarify the duties of the inspector or inspectors of election appointed in connection with any meeting of our stockholders.

Article II, Sections 4 & 5: The Amended and Restated Bylaws provide that notices of regular and special meetings of the Board can be delivered in electronic format.

Article IV, Section 1: The Amended and Restated Bylaws provide for a Chief Financial Officer and an Assistant Secretary. The Amended and Restated Bylaws also provide that our board of directors may authorize our Chief Executive Officer to appoint any officer other than the Chairperson of the Board, the Chief Executive Officer, the President, the Chief Financial Officer or the Treasurer.

Article IV, Section 8: The Amended and Restated Bylaws provide for a Chairperson of the Board, who shall have the power to preside at all meetings of our board of directors and who shall have such other powers and duties provided in the Amended and Restated Bylaws and as our board of directors may from time to time prescribe.

Article V, Section 3: The Amended and Restated Bylaws provide that if the record date for a meeting of stockholders is not fixed by our board of directors, the record date shall be as provided by applicable law and, in the event of an adjournment, if our board of directors fixes a new record date for the adjourned meeting, such new record date shall not precede the date on which the resolution fixing such record date is adopted and shall not be more than 60 nor less than 10 days before the date of the adjourned meeting.

Article VI, Section 2: The Amended and Restated Bylaws provide that all stock and other securities of other corporations held by us will be voted by the person authorized to do so by our board, or in the absence of such authorization, by the Chairperson of our board of directors, our Chief Executive Officer, our President or any Vice President.

Article VII, Section 1: The Amended and Restated Bylaws modernize the forms that notice to the stockholders can take and provide the circumstances when notice is deemed given.

Article VII, Section 3: The Amended and Restated Bylaws provide that no notice shall be required to be given to persons with whom communication is unlawful.

Article VIII, Section 7: The Amended and Restated Bylaws provide for the Court of Chancery in the State of Delaware as the sole and exclusive forum for certain proceedings involving us, unless an alternative forum is approved by our board of directors.

Article IX: The Amended and Restated Bylaws expand the scope of our directors' and officers' right to indemnification.

Article X: The Amended and Restated Bylaws delete Article X, relating to loans to officers, in its entirety.

In addition to the changes summarized above, the Amended and Restated Bylaws also include certain other technical, conforming and clarifying changes.

The foregoing description of the Amended and Restated Bylaws is qualified in its entirety by reference to the full text of the Amended and Restated Bylaws, which are filed as Exhibit 3.3 to this Annual Report on Form 10-K and incorporated herein by reference.

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K since we intend to file our definitive Proxy Statement for our next Annual Meeting of Stockholders, pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended (the "2019 Proxy Statement"), no later than April 30, 2019, and certain information to be included in the 2019 Proxy Statement is incorporated herein by reference. To the extent that we do not file the 2019 Proxy Statement by April 30, 2019, we will file an amendment to this Annual Report on Form 10-K that includes the information required by Part III.

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item regarding our directors, executive officers and corporate governance will be included in our 2019 Proxy Statement and is incorporated herein by reference.

Item 11. Executive Compensation.

The information required by this item regarding executive compensation will be included in our 2019 Proxy Statement and is incorporated herein by reference.

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

The information required by this item regarding security ownership of certain beneficial owners and management will be included in our 2019 Proxy Statement and is incorporated herein by reference.

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

The information required by this item regarding certain relationships and related transactions and director independence will be included in our 2019 Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this item regarding principal accounting fees and services will be included in our 2019 Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1) Financial Statements

Reference is made to the Index to Consolidated Financial Statements of Sorrento Therapeutics, Inc. appearing on page F-1 of this Form 10-K.

(a)(2) Financial Statement Schedules

Schedule II – Valuation of Qualifying Accounts

All other schedules not listed above have been omitted because of the absence of conditions under which they are required, or because the required information is included in the consolidated financial statements or the notes thereto.

(a)(3) Exhibits

Exhibit No.	Description
2.1*	Agreement and Plan of Merger between Sorrento Therapeutics, Inc. and IgDraSol, Inc. dated September 9, 2013 (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the SEC on September 11, 2013).
2.2*	Stock Purchase Agreement, dated November 8, 2016, by and among Sorrento Therapeutics, Inc., Scilex Pharmaceuticals Inc., the stockholders of Scilex Pharmaceuticals Inc. party thereto and SPI Shareholders Representative, LLC, as representative of the stockholders of Scilex Pharmaceuticals Inc. party thereto (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 8, 2016).
2.3*	Share Purchase Agreement, dated April 27, 2017, by and among Sorrento Therapeutics, Inc., TNK Therapeutics, Inc., Virttu Biologics, Limited, the shareholders of Virttu Biologics Limited and Dayspring Ventures Limited as representative of the shareholders of Virttu Biologics Limited (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the SEC on April 28, 2017).
2.4	Amendment No. 1 to Share Purchase Agreement, effective April 27, 2018, by and among Sorrento Therapeutics, Inc., TNK Therapeutics, Inc. and Dayspring Ventures Limited, as representative of the shareholders of Virttu Biologics Limited (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2018).
3.1	Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on May 15, 2013).
3.2	Certificate of Amendment of the Restated Certificate of Incorporation of Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on August 1, 2013).
3.3	Amended and Restated Bylaws of Sorrento Therapeutics, Inc.
3.4	Certificate of Designation of Rights, Preferences and Privileges of Series A Junior Participating Preferred Stock of Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 12, 2013).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on October 23, 2009).
4.2	Amended and Restated Rights Agreement, dated as of December 21, 2015 by and between Sorrento Therapeutics, Inc. and Philadelphia Stock Transfer, Inc., as rights agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on December 21, 2015).
4.3	Common Stock Purchase Warrant issued to Cambridge Equities, LP. (incorporated by reference to Exhibit 4.4 to the Registrant's Annual Report on Form 10-K filed with the SEC on March 16, 2015).
4.4	Securities Purchase Agreement, dated as of April 3, 2016, by and among Sorrento Therapeutics, Inc., ABG SRNE Limited and Ally Bridge LB Healthcare Master Fund Limited (incorporated by reference to Exhibit 4.5 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.5	Securities Purchase Agreement, dated as of April 3, 2016, by and between Sorrento Therapeutics, Inc. and FREJOY Investment Management Co., Ltd. (incorporated by reference to Exhibit 4.6 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.6	Securities Purchase Agreement, dated as of April 3, 2016, by and between Sorrento Therapeutics, Inc. and Beijing Shijilongxin Investment Co., Ltd. (incorporated by reference to Exhibit 4.7 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.7	Securities Purchase Agreement, dated as of April 3, 2016, by and between Sorrento Therapeutics, Inc. and Yuhan Corporation (incorporated by reference to Exhibit 4.8 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.8	Form of Common Stock Purchase Warrant issued to investors pursuant to the Securities Purchase Agreement, dated as of April 3, 2016, by and among Sorrento Therapeutics, Inc., ABG SRNE Limited and Ally Bridge LB Healthcare Master Fund Limited (incorporated by reference to Exhibit 4.9 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).

Exhibit No.	Description

4.9	Form of Common Stock Purchase Warrant issued to investors pursuant to the Securities Purchase Agreement, dated as of April 3, 2016, by and between Sorrento Therapeutics, Inc. and FREJOY Investment Management Co., Ltd. and Securities Purchase Agreement, dated as of April 3, 2016, by and between Sorrento Therapeutics, Inc. and Beijing Shijilongxin Investment Co., Ltd. (incorporated by reference to Exhibit 4.10 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.10	Common Stock Purchase Warrant issued to Yuhan Corporation on April 29, 2016 (incorporated by reference to Exhibit 4.11 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.11	Voting Agreement, dated as of April 29, 2016, by and between Sorrento Therapeutics, Inc. and Yuhan Corporation (incorporated by reference to Exhibit 4.12 to the Registrant's Registration Statement on Form S-3 filed with the SEC on June 29, 2016).
4.12	Registration Rights Agreement, dated November 8, 2016, by and among Sorrento Therapeutics, Inc. and the persons party thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 8, 2016).
4.13	Warrant Agreement, dated November 23, 2016, issued to Hercules Capital, Inc. (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on November 29, 2016).
4.14	Registration Rights Agreement, dated April 27, 2017, by and among Sorrento Therapeutics, Inc. and the persons party thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the SEC on April 28, 2017).
4.15	Form of Common Stock Purchase Warrant issued to investors pursuant to the Securities Purchase Agreement, dated as of December 11, 2017, by and among Sorrento Therapeutics, Inc. and the purchasers identified on Schedule A thereto (incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed with the SEC on December 21, 2017).
4.16	Registration Rights Agreement, dated December 21, 2017, by and among Sorrento Therapeutics, Inc. and the purchasers identified on Schedule A thereto (incorporated by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K filed with the SEC on December 21, 2017).
4.17	Form of Convertible Promissory Note issued to investors pursuant to the Securities Purchase Agreement, dated as of June 13, 2018, by and among Sorrento Therapeutics, Inc. and the purchasers identified on Schedule A thereto (incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2018).
4.18	Form of Common Stock Purchase Warrant issued to investors pursuant to the Securities Purchase Agreement, dated as of June 13, 2018, by and among Sorrento Therapeutics, Inc. and the purchasers identified on Schedule A thereto (incorporated by reference to Exhibit 4.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2018).
4.19	Registration Rights Agreement, dated June 13, 2018, by and among Sorrento Therapeutics, Inc. and the purchasers identified on Schedule A thereto (incorporated by reference to Exhibit 4.3 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2018).
4.20	Form of Warrant, dated November 7, 2018, issued by Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
4.21	Registration Rights Agreement, dated November 7, 2018, by and among Sorrento Therapeutics, Inc. and the parties identified on Schedule A thereto (incorporated by reference to Exhibit 4.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
10.1+	Exclusive License and Development Agreement between Sorrento Therapeutics, Inc. and China Oncology Focus Limited dated October 3, 2014 (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q/A filed with the SEC on November 25, 2014).
10.2+	License Agreement, dated January 8, 2010, by and between The Scripps Research Institute and Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on May 14, 2010).
10.3±	Form of Stock Option Agreement (incorporated by reference to Exhibit 10.11 to the Registrant's Current Report on Form 8-K/A filed with the SEC on September 22, 2009).
10.4±	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the SEC on September 7, 2012).
10.5±	2009 Amended and Restated Stock Incentive Plan, and forms of agreements related thereto (incorporated by reference to Appendix A to the definitive proxy statement filed by Sorrento Therapeutics, Inc. with the Securities and Exchange Commission on May 13, 2016).
10.6±	2009 Equity Incentive Plan, and forms of agreement related thereto (incorporated by reference to Exhibit 10.17 to the Registrant's Annual Report on Form 10-K filed with the SEC on March 25, 2010).

10.7	Option Agreement between Sorrento Therapeutics, Inc. and B.G, Negev Technologies and Applications Ltd. (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 13, 2013).

Exhibit No.	Description
10.8+	Exclusive License Agreement dated as of April 21, 2015 by and between NantCell, Inc. and Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 7, 2015).
10.9*	Stock Sale and Purchase Agreement dated as of May 14, 2015 by and between NantPharma, LLC and Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 7, 2015).
10.10	Binding Term Sheet for License Between Cytolumina/Fetolumina and TNK Therapeutics, Inc. (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 16, 2015).
10.11+	Exclusive License Agreement dated September 25, 2015 by and between LA Cell, Inc. and City of Hope (incorporated by reference to Exhibit 10.26 to the Registrant's Annual Report on Form 10-K filed with the SEC on March 15, 2016).
10.12±	Employment Agreement, dated December 8, 2014, by and between Sorrento Therapeutics, Inc. and George Ng (incorporated by reference to Exhibit 10.28 to the Registrant's Annual Report on Form 10-K/A filed with the SEC on April 29, 2016).
10.13	Letter Agreement, dated June 30, 2016, among Chan Soon-Shiong Family Foundation, Cambridge Equities, L.P. and Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 8, 2016).
10.14	Lease Agreement, dated September 12, 2016, between Sorrento Therapeutics, Inc. and HCP Life Science REIT, Inc. (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2016).
10.15	First Amendment to Office Lease, dated October 19, 2018, between Sorrento Therapeutics, Inc. and HCP Life Science REIT, Inc.
10.16	Unit Purchase Agreement dated August 5, 2016, by and among MedoveX Corporation and the purchasers party thereto (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed by MedoveX Corporation (File No. 001-36763) with the SEC on August 8, 2016).

Exhibit No.	Description
10.17	Registration Rights Agreement, dated August 5, 2016, by and among MedoveX Corporation and the investors party thereto (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed by MedoveX Corporation (File No. 001-36763) with the SEC on August 8, 2016).
10.18±	Amended and Restated Employment Agreement between Sorrento Therapeutics, Inc. and Henry Ji, Ph.D. dated May 9, 2017 (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on May 15, 2017).
10.19+	Contribution Agreement, dated as of June 12, 2017, by and among Sorrento Therapeutics, Inc., TNK Therapeutics, Inc. and Celularity, Inc. (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2017).
10.20+	Amendment No. 1 to Contribution Agreement, dated as of June 30, 2017, by and among Sorrento Therapeutics, Inc., TNK Therapeutics, Inc. and Celularity, Inc. (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on August 9, 2017).
10.21	Amendment No. 2 to Contribution Agreement, dated as of August 10, 2017, by and among Sorrento Therapeutics, Inc., TNK Therapeutics, Inc. and Celularity, Inc. (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2017).

10.22+	License and Transfer Agreement dated August 15, 2017 by and among Sorrento Therapeutics, Inc., TNK Therapeutics, Inc. and Celularity, Inc. (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2017).
10.23	At Market Issuance Sales Agreement, dated as of November 9, 2017, by and between Sorrento Therapeutics, Inc. and B. Riley FBR, Inc. (incorporated by reference to Exhibit 1.2 to the Registrant's Registration Statement on Form S-3 filed with the SEC on November 9, 2017).
10.24	Offer Letter, dated March 15, 2018, by and between Sorrento Therapeutics, Inc. and Jiong Shao (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on May 10, 2018).
10.25+	Indenture and form of Note issued thereunder, dated as of September 7, 2018, by and among Scilex Pharmaceuticals Inc., as issuer, Sorrento Therapeutics, Inc., as parent guarantor, and U.S. Bank National Association, as trustee and collateral agent (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
10.26	Form of Purchase Agreement, dated as of September 7, 2018, by and among Scilex Pharmaceuticals Inc., Sorrento Therapeutics, Inc. and the purchasers party thereto (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
10.27	Collateral Agreement, dated as of September 7, 2018, by and between Scilex Pharmaceuticals Inc. and U.S. Bank National Association, as trustee and collateral agent (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
10.28+	Irrevocable Standby Letter of Credit, dated September 7, 2018, issued by Sorrento Therapeutics, Inc. (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
10.29+	Term Loan Agreement, dated November 7, 2018, by and among Sorrento Therapeutics, Inc., certain subsidiaries of Sorrento Therapeutics, Inc., the lenders party thereto and Oaktree Fund Administration, LLC, as administrative and collateral agent (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
10.30	Lease Agreement, dated November 13, 2018, between Sorrento Therapeutics, Inc. and HCP Life Science Estates, Inc.
10.31	Agreement and Consent, dated November 7, 2018, by and among Sorrento Therapeutics, Inc. and the Warrant Holders party thereto (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 9, 2018).
21.1	List of Subsidiaries
23.1	Consent of Deloitte & Touche LLP
24	Power of Attorney (included on signature page hereto)
31.1	Certification of Henry Ji, Ph.D., Principal Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, as amended.
31.2	Certification of Jiong Shao, Principal Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, as amended.
32.1	Certification of Henry Ji, Ph.D., Principal Executive Officer and Jiong Shao, Principal Financial Officer, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, as amended.
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

* Non-material schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Registrant hereby undertakes to furnish supplementally copies of any of the omitted schedules and exhibits upon request by the SEC.

\+ The SEC has granted confidential treatment with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

± Management contract or compensatory plan.

The following financial statement schedule is filed as part of this Annual Report on Form 10-K:

Schedule Number	Description
II	Valuation and Qualifying Accounts

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS

(in thousands)	Balance at Beginning of Period	Reserves Acquired	Additions	Deductions	Balance at End of Period
Fiscal Year 2018:					
Income tax valuation allowance	43,405	—	31,565	—	74,970
	$ 43,405	$ —	$ 31,565	$ —	$ 74,970
Fiscal Year 2017:					
Income tax valuation allowance	81,039	797	—	(38,431)	43,405
	$ 81,039	$ 797	$ —	$ (38,431)	$ 43,405
Fiscal Year 2016:					
Income tax valuation allowance	39,605	—	41,434	—	81,039
	$ 39,605	$ —	$ 41,434	$ —	$ 81,039

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, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 15, 2019

SORRENTO THERAPEUTICS, INC.

By: /s/ Henry Ji

Henry Ji, Ph.D.
Chairman of the Board of Directors, Chief Executive Officer & President

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints, jointly and severally, Henry Ji, Ph.D., and Jiong Shao, and each of them acting individually, as his attorney-in-fact, each with full power of substitution and resubstitution, for him in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title(s)	Date
/s/ Henry Ji, Ph.D. **Henry Ji, Ph.D.**	Chairman of the Board of Directors, Chief Executive Officer & President *(Principal Executive Officer)*	March 15, 2019
/s/ Jiong Shao **Jiong Shao**	Chief Financial Officer *(Principal Financial and Accounting Officer)*	March 15, 2019
/s/ Dorman Followwill **Dorman Followwill**	Director	March 15, 2019
/s/ Yue Alexander Wu **Yue Alexander Wu, Ph.D.**	Director	March 15, 2019
/s/ Kim D. Janda, Ph.D. **Kim D. Janda, Ph.D.**	Director	March 15, 2019
/s/ Jaisim Shah **Jaisim Shah**	Director	March 15, 2019
/s/ David Lemus **David Lemus**	Director	March 15, 2019

Sorrento Therapeutics, Inc.

Index to Consolidated Financial Statements

Reports of Independent Registered Public Accounting Firm

To the stockholders and Board of Directors of Sorrento Therapeutics, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Sorrento Therapeutics, Inc. and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, because of the effect of the material weaknesses identified below on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2018, of the Company and our report dated March 15, 2019, expressed an unqualified opinion on those consolidated financial statements and financial statement schedule and included an explanatory paragraph regarding substantial doubt about the Company's ability to continue as a going concern.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures, as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Material Weaknesses

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management's assessment:

As required by COSO Principles 4 and 12, the Company did not attract, develop, and retain sufficient accounting resources, including a Chief Accounting Officer, with appropriate knowledge and expertise commensurate with the Company's corporate structure and financial reporting requirements to effectively operate internal controls over financial reporting in a timely manner. As a result of the lack of sufficient and appropriate resources, the Company's control activities in certain process or control areas did not operate effectively. Areas where we identified deficiencies resulting from the lack of sufficient accounting department resources included a lack of precise reviews of significant assumptions underlying fair value of embedded derivatives, fair value of indefinite-lived intangible assets, and income tax related balances.

The Company's failure to establish an effective control environment also contributed to the following individual material weaknesses: (i) a deficiency in evaluating the underlying assumptions associated with the accounting for key terms identified in significant transactions, which in the current year included convertible note and debt agreements; and (ii) a deficiency in reviewing and assessing assumptions underlying the determination of fair value of contingent consideration liabilities.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
March 15, 2019

Reports of Independent Registered Public Accounting Firm

To the stockholders and the Board of Directors of Sorrento Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sorrento Therapeutics, Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the schedule listed in the Index at Item 15 (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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 15, 2019, expressed an adverse opinion on the Company's internal control over financial reporting because of material weaknesses.

Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company’s recurring losses from operations, recurring negative cash flows from operations and substantial cumulative net losses raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the 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. 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

San Diego, California
March 15, 2019

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

CONSOLIDATED BALANCE SHEETS
(In thousands, except for share amounts)

	December 31,	
	2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 158,738	$ 20,429
Restricted cash	9,592	—
Marketable securities	297	441
Grants and accounts receivables, net	3,833	2,211
Income tax receivable	526	1,715
Prepaid expenses and other, net	6,578	4,904
Total current assets	179,564	29,700
Property and equipment, net	24,384	19,345
Intangibles, net	66,283	71,013
Goodwill	38,298	38,298
Cost method investments	237,008	237,008
Equity method investments	27,980	32,999
Restricted cash	45,000	—
Other, net	5,570	3,250
Total assets	$ 624,087	$ 431,613
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 13,817	$ 9,911
Accrued payroll and related	10,236	4,485
Accrued expenses	13,403	7,274
Current portion of deferred revenue	2,703	3,864
Current portion of deferred rent	—	212
Acquisition consideration payable	11,312	53,209
Current portion of debt	10,150	—
Total current liabilities	61,621	78,955
Long-term debt, net of discount	223,136	5,211
Deferred tax liabilities, net	9,416	15,535
Deferred revenue	116,274	119,287
Deferred rent and other	6,140	6,015
Total liabilities	416,587	225,003
Commitments and contingencies		
Equity:		
Sorrento Therapeutics, Inc. equity		
Preferred stock, $0.0001 par value; 100,000,000 shares authorized and no shares issued or outstanding	—	—
Common stock, $0.0001 par value; 750,000,000 shares authorized and 122,280,092 and 82,903,567 shares issued and outstanding at December 31, 2018 and 2017, respectively	13	9
Additional paid-in capital	626,658	413,901
Accumulated other comprehensive income	15	242
Accumulated deficit	(367,750)	(165,120)
Treasury stock, 7,568,182 shares and 7,568,182 shares at cost at December 31, 2018 and 2017, respectively	(49,464)	(49,464)
Total Sorrento Therapeutics, Inc. stockholders' equity	209,472	199,568
Noncontrolling interests	(1,972)	7,042
Total equity	207,500	206,610
Total liabilities and equity	$ 624,087	$ 431,613

See accompanying notes

SORRENTO THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
For the Years Ended December 31, 2018, 2017 and 2016

(In thousands, except for per share amounts)

	2018	2017	2016
Revenues:			
Grant	$ 356	$ 206	$ 1,033
Royalties and licenses	480	140,381	4,017
Sales and services	20,357	11,269	3,102
Total revenues	21,193	151,856	8,152
Operating costs and expenses:			
Costs of revenues	7,060	3,945	811
Research and development	76,963	55,532	42,175
Acquired in-process research and development	11,304	26,102	45,000
General and administrative	63,638	38,332	24,219
Intangible amortization	3,009	2,610	845
Loss (gain) on contingent liabilities	9,644	—	(8,121)
Total costs and operating expenses	171,618	126,521	104,929
(Loss) income from operations	(150,425)	25,335	(96,777)
Gain on derivative liabilities	2,830	—	5,520
Gain on marketable securities	—	—	27,193
Loss on foreign currency exchange	(1,243)	(178)	—
(Loss) gain on trading securities	(144)	(665)	356
Interest expense	(57,631)	(4,980)	(1,610)
Interest income	921	241	272
Loss on debt extinguishment	(8,089)	(4,275)	(222)
Loss on receivable	—	(163)	—
(Loss) income before income tax (benefit) loss and (loss) income on equity method investments	(213,781)	15,315	(65,268)
Income tax benefit	(6,274)	(36,038)	(896)
(Loss) income on equity method investments	(5,019)	(40,244)	435
Net (loss) income	(212,526)	11,109	(63,937)
Net (loss) income attributable to noncontrolling interests	(8,986)	1,977	(3,014)
Net (loss) income attributable to Sorrento	$ (203,540)	$ 9,132	$ (60,923)
Net (loss) income per share - basic per share attributable to Sorrento	$ (1.92)	$ 0.13	$ (1.21)
Net (loss) income per share - diluted per share attributable to Sorrento	$ (1.92)	$ 0.13	$ (1.21)
Weighted-average shares used during period - basic per share attributable to Sorrento	106,150	69,742	50,360
Weighted-average shares used during period - diluted per share attributable to Sorrento	106,150	70,381	50,360

See accompanying notes

SORRENTO THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
For the Years Ended December 31, 2018, 2017 and 2016

(In thousands, except for share amounts)

	2018	2017	2016
Net (loss) income	$ (212,526)	$ 11,109	$ (63,937)
Other comprehensive income:			
Unrealized loss on marketable securities, net of tax of $0, $0, and $(14,294)	—	—	(73,579)
Foreign currency translation adjustments	(227)	360	(118)
Total other comprehensive (loss) income	(227)	360	(73,697)
Comprehensive (loss) income	(212,753)	11,469	(137,634)
Comprehensive (loss) income attributable to noncontrolling interests	(8,986)	1,977	(3,014)
Comprehensive (loss) income attributable to Sorrento	$ (203,767)	$ 9,492	$ (134,620)

See accompanying notes

SORRENTO THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the Years Ended December 31, 2018, 2017 and 2016

(In thousands, except for share amounts)

	Common Stock		Treasury Stock		Additional Paid-in	Accumulated Other Comprehensive	Accumulated	Noncontrolling	
	Shares	Amount	Shares	Amount	Capital	Income (Loss)	Deficit	Interest	Total
Balance, December 31, 2015	37,771,459	4	—	—	184,898	73,579	(113,329)	(4,214)	140,938
Issuance of common stock with exercise of options	204,668	—	—	—	524	—	—	—	527
Issuance of common stock for private placement and investments, net	27,598,235	3	—	—	108,298	—	—	—	108,301
Issuance of common stock upon acquisition of Scilex	754,911	1	—	—	5,368	—	—	13,693	19,061
Cancellation of stock issuance	(15,446,417)	(2)	7,568,182	(49,464)	(1,341)	—	—	—	(50,807)
Stock-based compensation	—	—	—	—	4,741	—	—	—	4,741
Change in unrealized gain on marketable securities	—	—	—	—	—	(73,579)	—	—	(73,579)
Foreign currency translation adjustment	—	—	—	—	—	(118)	—	—	(118)
Hercules warrant	—	—	—	—	1,377	—	—	—	1,377
Net loss	—	—	—	—	—	—	(60,923)	(3,014)	(63,937)
Balance, December 31, 2016	50,882,856	6	7,568,182	(49,464)	303,865	(118)	(174,252)	6,465	86,502
Scilex acquisition adjustment	—	—	—	—	(627)	—	—	(1,400)	(2,027)
Issuance of common stock for public placement and investments, net	30,468,700	3	—	—	57,925	—	—	—	57,928
Beneficial conversion feature recorded on convertible notes	—	—	—	—	32,062	—	—	—	32,062
Warrants issued in connection with convertible notes	—	—	—	—	12,669	—	—	—	12,669
Issuance of common stock for business combinations	1,552,011	—	—	—	3,055	—	—	—	3,055
Stock-based compensation	—	—	—	—	4,952	—	—	—	4,952
Foreign currency translation adjustment	—	—	—	—	—	360	—	—	360
Net loss	—	—	—	—	—	—	9,132	1,977	11,109
Balance, December 31, 2017	82,903,567	9	7,568,182	(49,464)	413,901	242	(165,120)	7,042	206,610
Adoption impact of ASC 606	—	—	—	—	—	—	910	—	910
Issuance of common stock with exercise of options	57,690	—	—	—	211	—	—	—	211
Issuance of common stock for BDL settlement	309,916	—	—	—	2,340	—	—	—	2,340
Issuance of common stock for Scilex settlement	1,381,346	—	—	—	13,744	—	—	—	13,744
Issuance of common stock for public placement, net	13,793,997	2	—	—	83,608	—	—	—	83,610
Issuance of common stock for Virttu settlement	1,795,011	—	—	—	11,308	—	—	—	11,308
Issuance of common stock related to conversion of notes payable	22,038,565	2	—	—	49,998	—	—	—	50,000
Beneficial conversion feature recorded on convertible notes	—	—	—	—	12,006	—	—	—	12,006
Warrants issued in connection with convertible notes	—	—	—	—	9,646	—	—	—	9,646
Warrants issued in connection with Term Loan Agreement	—	—	—	—	21,746	—	—	—	21,746
Loss on debt extinguishment	—	—	—	—	1,916	—	—	—	1,916
Stock-based compensation	—	—	—	—	6,234	—	—	(28)	6,206
Foreign currency translation adjustment	—	—	—	—	—	(227)	—	—	(227)
Net loss	—	—	—	—	—	—	(203,540)	(8,986)	(212,526)
Balance, December 31, 2018	122,280,092	$ 13	7,568,182	$ (49,464)	$ 626,658	$ 15	$ (367,750)	$ (1,972)	$ 207,500

See accompanying notes

SORRENTO THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2018, 2017 and 2016
(In thousands, except for share amounts)

	2018	2017	2016
Operating activities			
Net income (loss)	$ (212,526)	$ 11,109	$ (63,937)
Adjustments to reconcile net loss to net cash provided by and (used for) operating activities:			
Depreciation and amortization	9,054	7,079	2,885
Non-cash interest expense	52,841	1,326	164
Amortization of debt issuance costs	550	477	—
Loss (gain) on sale of marketable securities	—	—	(27,193)
Loss on trading securities	144	665	—
Stock-based compensation	6,206	4,952	4,741
Acquired in-process research and development	9,895	—	—
Loss on disposal for property and equipment	440	59	—
Loss on receivable	—	163	—
Loss on debt extinguishment	8,089	4,275	—
(Gain) on derivative liability	(2,830)	—	(5,520)
Loss (income) on equity method investments	5,019	40,244	(435)
Non-cash income on cost method investments	—	(116,249)	—
Loss (Gain) on contingent liabilities	9,644	—	(8,121)
Loss on IPR&D impairment	1,826	—	—
Deferred tax provision	(6,119)	(35,679)	982
Changes in operating assets and liabilities; net of dispositions:			
Grants and other receivables	(1,623)	(515)	(472)
Accrued payroll	5,751	920	—
Prepaid expenses and other	(1,674)	(1,902)	40
Deposits and other assets	(1,130)	233	(448)
Accounts payable	3,578	1,592	3,714
Deferred revenue	(3,263)	(20,891)	23,534
Deferred rent and other	251	639	(2,535)
Acquisition consideration payable	(2,020)	—	—
Accrued expenses and other liabilities	6,130	2,323	1,673
Net cash used for operating activities	(111,767)	(99,180)	(70,928)
Investing activities			
Purchases of property and equipment	(11,195)	(10,972)	(6,860)
Purchase of assets related to Sofusa	(10,000)	—	—
Investment in SiniWest	—	—	(1,000)
Investment in Celularity	—	(5,000)	(5,000)
Purchase of business, net of cash acquired	—	(557)	(3,842)
Purchase of MedoveX Investment	—	—	(750)
Net cash used for investing activities	(21,195)	(16,529)	(17,452)
Financing activities			
Net borrowings under loan and security agreement	—	49,916	—
Payments on short term bridge loan	(20,000)	—	—
Bridge loan for Scilex settlement	20,000	—	—
Bridge loan for Scilex settlement repayment	(20,000)	—	—
Proceeds from loan agreement	1,586	—	—

Short-term bridge loan, net of issuance costs	19,675	—	—
Scilex consideration for regulatory milestones	(22,466)	—	—
Proceeds from issuance of common stock, net	83,608	57,928	107,986
Proceeds from issuance of Scilex notes	140,000	—	—
Scilex notes issuance of Scilex notes	(5,725)	—	—
Proceeds from issuance of convertible notes	37,849	—	—
Cash payments for treasury shares	—	—	(15,639)
Proceeds from loan and security agreement, net of fees	—	—	48,320
Payments of debt on retired note	—	(53,157)	(9,451)
Net payments of deferred compensation	—	(1,012)	—
Proceeds from Oaktree term loan	100,000	—	—
Oaktree issuance cost	(8,740)	—	—
Proceeds from exercise of stock options	211	—	524
Net cash provided by financing activities	325,998	53,675	131,740
Net change in cash, cash equivalents and restricted cash	193,036	(62,034)	43,360
Net effect of exchange rate changes on cash	(135)	65	—
Cash, cash equivalents and restricted cash at beginning of period	20,429	82,398	39,038
Cash, cash equivalents and restricted cash at end of period	$ 213,330	$ 20,429	$ 82,398
Supplemental disclosures:			
Cash paid during the period for:			
Income taxes	6	34	2
Interest	1,620	3,499	1,342
Supplemental disclosures of non-cash investing and financing activities:			
Virttu acquisition non-cash consideration	11,308	15,465	—
Scilex acquisition non-cash consideration	—	—	(45,368)
Scilex non-cash consideration for regulatory milestone	13,744	1,380	—
SiniWest non-cash consideration	—	—	(2,832)
Roger Williams Medical Center non-cash consideration	—	—	(3,398)
Investment in ImmuneOncia	—	—	(9,608)
BDL stock issuance	2,340	—	—
Conversion of 2017 convertible notes	50,000	—	—
Loss on debt extinguishment	1,916	—	—
Property and equipment costs incurred but not paid	328	37	—
Reconciliation of cash, cash equivalents and restricted cash within the Company's consolidated balance sheets:			
Cash and cash equivalents	158,738	20,429	82,398
Restricted cash	54,592	—	—
Cash, cash equivalents, and restricted cash	$ 213,330	$ 20,429	$ 82,398

1. Nature of Operations and Business Activities

Nature of Operations and Basis of Presentation

Sorrento Therapeutics, Inc. (Nasdaq: SRNE), together with its subsidiaries (collectively, the "Company") is a clinical stage and commercial biopharma company focused on delivering innovative and clinically meaningful therapies to patients and their families, globally, to address unmet medical needs. The Company primarily focuses on therapeutics areas in Immune-Oncology and Non-Opioid Pain Management. The Company also has programs assessing the use of its technologies and products in auto-immune, inflammatory and neurodegenerative diseases.

At its core, the Company is an antibody-centric company and leverages its proprietary G-MAB™ library and targeted delivery modalities to generate the next generation of cancer therapeutics. the Company's fully human antibodies include PD-1, PD-L1, CD38, CD123, CD47, c-MET, VEGFR2, CCR2 and CD137 among others.

The Company's vision is to leverage these antibodies in conjunction with proprietary targeted delivery modalities to generate the next generation of cancer therapeutics. These modalities include proprietary chimeric antigen receptor T-cell therapy ("CAR-T"), dimeric antigen receptor T-cell therapy ("DAR-T"), antibody drug conjugates ("ADCs") as well as bispecific antibody approaches. Additionally, the Company acquired Sofusa®, a revolutionary drug delivery system, in July 2018, which delivers biologics directly into the lymphatic system to potentially achieve improved efficacy and fewer adverse effects than standard parenteral immunotherapy.

With each of the Company's clinical and pre-clinical programs, it aims to tailor its therapies to treat specific stages in the evolution of cancer, from elimination, to equilibrium and escape. In addition, the Company's objective is to focus on tumors that are resistant to current treatments and where it can design focused trials based on a genetic signature or biomarker to ensure patients have the best chance of a durable and significant response. The Company has several immuno-oncology programs that are in or near to entering the clinic. These include cellular therapies, an oncolytic virus and a palliative care program targeted to treat intractable cancer pain.

Through December 31, 2018, the Company had devoted substantially all of its efforts to product development, raising capital and building infrastructure, and had not realized revenues from its planned principal operations.

The accompanying consolidated financial statements include the accounts of the Company's subsidiaries. For consolidated entities where the Company owns or is exposed to less than 100% of the economics, the Company records net income (loss) attributable to noncontrolling interests in its consolidated statements of operations equal to the percentage of the economic or ownership interest retained in such entities by the respective noncontrolling parties. All intercompany balances and transactions have been eliminated in consolidation.

2. Liquidity and Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The Company has recurring losses from operations, recurring negative cash flows from operations and substantial cumulative net losses to date and anticipates that it will continue to do so for the foreseeable future as it continues to identify and invest in advancing product candidates, as well as expanding corporate infrastructure.

The Company has plans in place to obtain sufficient additional fundraising to fulfill its operating and capital requirements for the next 12 months. The Company's plans include continuing to fund its operating losses and capital funding needs through public or private equity or debt financings, strategic collaborations, licensing arrangements, asset sales, government grants or other arrangements. Although management believes such plans, if executed, should provide the Company sufficient financing to meet its needs, successful completion of such plans is dependent on factors outside of the Company's control. As such, management cannot conclude that such plans will be effectively implemented within one year after the date that the financial statements are issued. As a result, management has concluded that the aforementioned conditions, among others, raise substantial doubt about the Company's ability to continue as a going concern within one year after the date the financial statements are issued.

As of December 31, 2018, the Company had $361.8 million of long term debt outstanding under the 2018 Securities Purchase Agreement in Private Placement and Amendment to Warrants, 2018 Purchase Agreements and Indenture for Scilex and 2018 Oaktree Term Loan Agreement (collectively, the "Debt Arrangements") (See Note 12).

Each of the Debt Arrangements provide that, upon the occurrence of an event of default, the Purchasers thereof may, by written notice to the Company, declare all of the outstanding principal and interest under such Note immediately due and payable. For purposes of the Debt Arrangements, an event of default includes, among other things, one or more events that have, or could reasonably be expected to have, a material adverse effect on (i) the business, assets, financial condition or operations of the Company, (ii) the Company's ability to comply with its obligations under the agreements, or (iii) the legality, validity or enforceability of the agreements. The Company believes that it is not probable that the material adverse event clause under the Debt Arrangements will be exercised.

If the Company is unable to raise additional capital in sufficient amounts or on terms acceptable, the Company may have to significantly delay, scale back or discontinue the development or commercialization of one or more of its product candidates. The Company may also seek collaborators for one or more of its current or future product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available. The consolidated financial statements do not reflect any adjustments that might be necessary if the Company is unable to continue as a going concern.

Universal Shelf Registration

In November 2014, the Company filed a universal shelf registration statement on Form S-3 (the "2014 Shelf Registration Statement") with the SEC, which was declared effective by the SEC in December 2014. This 2014 Shelf Registration Statement provided the Company with the ability to offer up to $250 million of securities, including equity and other securities as described in the registration statement. Included in the 2014 shelf registration is a sales agreement prospectus covering the offering, issuance and sale by the Company of up to a maximum aggregate offering price of $50.0 million of the Company's common stock that may be issued and sold under a sales agreement with MLV & Co. LLC (the "2014 ATM Facility"). During the twelve months ended December 31, 2017 and 2016, the Company sold approximately $13.9 million and $3.6 million in shares of common stock under the 2014 ATM Facility, respectively.

In April 2017, the Company completed a public offering of $47.5 million of shares of common stock pursuant to the 2014 Shelf Registration Statement for net proceeds of approximately $43.1 million.

In November 2017, the Company filed a universal shelf registration statement on Form S-3 (the "2017 Shelf Registration Statement") with the SEC, which was declared effective by the SEC in December 2017. The 2014 Shelf Registration Statement expired on December 6, 2017 when the 2017 Shelf Registration was declared effective. This 2017 Shelf Registration Statement provides the Company with the ability to offer up to $350 million of securities, including equity and other securities as described in the registration statement. Included in the 2017 Shelf Registration Statement is a sales agreement prospectus covering the offering, issuance and sale by the Company of up to a maximum aggregate offering price of $100.0 million of the Company's common stock that may be issued and sold under a sales agreement with B. Riley FBR, Inc. (the "ATM Facility"). During the twelve months ended December 31, 2018, the Company sold approximately $83.6 million in shares of common stock under the ATM Facility. The Company can offer up to $15.5 million of additional shares of common stock under the ATM Facility, subject to certain limitations.

Pursuant to the 2017 Shelf Registration Statement, the Company may offer such securities from time to time and through one or more methods of distribution, subject to market conditions and the Company's capital needs. Specific terms and prices will be determined at the time of each offering under a separate prospectus supplement, which will be filed with the SEC at the time of any offering. However, the Company cannot be sure that such additional funds will be available on reasonable terms, or at all.

If the Company raises additional funds by issuing equity securities, substantial dilution to existing stockholders would result. If the Company raises additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations as well as covenants and specific financial ratios that may restrict the Company's ability to operate its business.

3. Significant Accounting Policies

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Management believes that these estimates are reasonable; however, actual results may differ from these estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of three months or less to be cash equivalents. The Company minimizes its credit risk associated with cash and cash equivalents by periodically evaluating the credit quality of its primary financial institution. The balance at times may exceed federally insured limits. The Company has not experienced any losses on such accounts.

Restricted Cash

Restricted cash in the Company's consolidated balance sheet as of December 31, 2018, included approximately $45.0 million of restricted cash related to the Scilex Notes in the form of both the Reserve Account and the Collateral Account (See Note 12). Restricted cash in the Company's consolidated balance sheet as of December 31, 2018 also included approximately $9.6 million of restricted cash related to the Loan Agreement in the form of a Reserve Account (See Note 12).

Fair Value of Financial Instruments

The Company follows accounting guidance on fair value measurements for financial instruments measured on a recurring basis, as well as for certain assets and liabilities that are initially recorded at their estimated fair values. Fair value is defined as the exit price, or the amount that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company uses the following three-level hierarchy that maximizes the use of observable inputs and minimizes the use of unobservable inputs to value its financial instruments:

- Level 1: Observable inputs such as unadjusted quoted prices in active markets for identical instruments.
- Level 2: Quoted prices for similar instruments that are directly or indirectly observable in the marketplace.
- Level 3: Significant unobservable inputs which are supported by little or no market activity and that are financial instruments whose values are determined using pricing models, discounted cash flow methodologies, or similar techniques, as well as instruments for which the determination of fair value requires significant judgment or estimation.

Financial instruments measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires it to make judgments and consider factors specific to the asset or liability. The use of different assumptions and/or estimation methodologies may have a material effect on estimated fair values. Accordingly, the fair value estimates disclosed or initial amounts recorded may not be indicative of the amount that the Company or holders of the instruments could realize in a current market exchange.

The carrying amounts of cash equivalents and marketable securities approximate their fair value based upon quoted market prices. Certain of the Company's financial instruments are not measured at fair value on a recurring basis, but are recorded at amounts that approximate their fair value due to their liquid or short-term nature, such as cash, accounts receivable and payable, and other financial instruments in current assets or current liabilities.

Marketable Securities

Marketable securities are designated either as trading or available-for-sale securities and are accounted for at fair value. Marketable securities are classified as short-term or long-term based on the nature of the securities and their availability to meet current operating requirements. Marketable securities that are readily available for use in current operations and are classified as short-term available-for-sale securities are reported as a component of current assets in the accompanying consolidated balance sheets. Marketable securities that are not trading securities and are not considered available for use in current operations are classified as long-term available-for-sale securities and are reported as a component of long-term assets in the accompanying consolidated balance sheets.

Securities that are classified as trading are carried at fair value, with changes to fair value reported as a component of income. Securities that are classified as available-for-sale are carried at fair value, with temporary unrealized gains and losses reported as a component of stockholders' equity until their disposition. The cost of securities sold is based on the specific identification method.

All of the Company’s marketable securities are subject to a periodic impairment review. The Company recognizes an impairment charge when a decline in the fair value of its investments below the cost basis is judged to be other-than-temporary. For the year ended December 31, 2018, no other-than-temporary impairment charges were recorded for marketable securities.

Grants and Accounts Receivable

Grants receivable at December 31, 2018 and 2017 represent amounts due under several federal contracts with the National Institute of Allergy and Infectious Diseases (“NIAID”), a division of the National Institutes of Health (“NIH”) (collectively, the “NIH Grants”). The Company considers the grants receivable to be fully collectible; accordingly, no allowance for doubtful amounts has been established. If amounts become uncollectible, they are charged to operations.

Accounts receivable at December 31, 2018, 2017 and 2016 consists of trade receivables from sales and services provided to certain customers, which are generally unsecured and due within 30 days. Estimated credit losses related to trade accounts receivable are recorded as general and administrative expenses and as an allowance for doubtful accounts within grants and accounts receivable, net. The Company reviews reserves and makes adjustments based on historical experience and known collectability issues and disputes. When internal collection efforts on accounts have been exhausted, the accounts are written off by reducing the allowance for doubtful accounts. As of December 31, 2018, 2017 and 2016, the allowance for doubtful accounts was $20 thousand, $20 thousand and $26 thousand, respectively.

Inventory

The Company determines inventory cost on a first-in, first-out basis. The Company reduces the carrying value of inventories to a lower of cost or market basis for those items that are potentially excess, obsolete or slow-moving. The Company reserves for excess and obsolete inventory based upon historical experience, sales trends, and specific categories of inventory and age of on-hand inventory. As of December 31, 2018, the Company's inventory is primarily comprised of finished goods and is recorded as a component of Prepaid expenses and other, net on the consolidated balance sheets.

Property and Equipment

Property and equipment are carried at cost less accumulated depreciation. Depreciation of property and equipment is computed using the straight-line method over the estimated useful lives of the assets, which are generally three to five years. Leasehold improvements are amortized over the lesser of the life of the lease or the life of the asset. Repairs and maintenance are charged to expense as incurred.

Acquisitions and Intangibles

The Company has engaged in business combination activity. The accounting for business combinations requires management to make judgments and estimates of the fair value of assets acquired, including the identification and valuation of intangible assets, as well as liabilities assumed. Such judgments and estimates directly impact the amount of goodwill recognized in connection with each acquisition, as goodwill presents the excess of the purchase price of an acquired business over the fair value of its net tangible and identifiable intangible assets.

Goodwill and Other Long-Lived Assets

Goodwill, which has an indefinite useful life, represents the excess of cost over fair value of net assets acquired. Goodwill is reviewed for impairment at least annually during the fourth quarter, or more frequently if events occur indicating the potential for impairment. During its goodwill impairment review, the Company may assess qualitative factors to determine whether it is more likely than not that the fair value of its reporting unit is less than its carrying amount, including goodwill. The qualitative factors include, but are not limited to, macroeconomic conditions, industry and market considerations, and the overall financial performance of the Company. If, after assessing the totality of these qualitative factors, the Company determines that it is not more likely than not that the fair value of its reporting unit is less than its carrying amount, then no additional assessment is deemed necessary. Otherwise, the Company proceeds to perform the two-step test for goodwill impairment. The first step involves comparing the estimated fair value of the reporting unit with its carrying value, including

goodwill. If the carrying amount of the reporting unit exceeds its fair value, the Company performs the second step of the goodwill impairment test to determine the amount of loss, which involves comparing the implied fair value of the goodwill to the carrying value of the goodwill. The Company may also elect to bypass the qualitative assessment in a period and elect to proceed to perform the first step of the goodwill impairment test. The Company performed its annual assessment for goodwill impairment in the fourth quarter of 2018, noting no impairment and that the fair value of the goodwill exceeded the carrying value by a significant margin. There have not been any triggering events indicating the potential for impairment through December 31, 2018.

In determining the fair value utilized in the goodwill impairment assessment, the Company considers qualitative factors such as changes in strategy, cash flows and the regulatory environment as well as the market capitalization of the Company's publicly traded common stock. The Company's share price is highly volatile and although there was significant excess of fair value over book value at the annual impairment assessment date as well as December 31, 2018, there have been subsequent declines in the market share price and there could be risk of impairment in the future.

It is not possible at this time to determine if an impairment charge would result from these factors, or, if it does, whether such charge would be material. The Company will continue to monitor the recoverability of its goodwill.

The Company evaluates its long-lived and intangible assets with definite lives, such as property and equipment, acquired technology, customer relationships, patent and license rights, for impairment by considering competition by products prescribed for the same indication, the likelihood and estimated future entry of non-generic and generic competition with the same or similar indication and other related factors. The factors that drive the estimate of useful life are often uncertain and are reviewed on a periodic basis or when events occur that warrant review. Recoverability is measured by comparison of the assets' book value to future net undiscounted cash flows that the assets are expected to generate. There have not been any impairment losses of long-lived assets through December 31, 2018.

Acquisition Consideration Payable - Gain or Loss on Contingent Liabilities

Acquisition consideration payable relates to the Company's acquisition of businesses and various other assets and is recorded on the Company's consolidated balance sheets at fair value and is re-measured at each balance sheet date until such contingent liabilities have been settled, with changes in fair value recorded as gain or loss on contingent liabilities. The Company estimates the fair value of contingent consideration based on level 3 inputs primarily driven by the probability of achieving certain financing or operating related milestones.

The Company estimates the fair value of contingent consideration based on level 3 inputs, which, for acquisition consideration payable related to asset acquisitions, are primarily driven by the probability of achieving certain financing or operating related milestones.

Debt, Including Debt With Detachable Warrants

Debt with detachable warrants are evaluated for the classification of warrants as either equity instruments, derivative liabilities, or liabilities depending on the specific terms of the warrant agreement. In circumstances in which debt is issued with equity-classified warrants, the proceeds from the issuance of convertible debt are first allocated to the debt and the warrants at their relative estimated fair values. The portion of the proceeds so allocated to the warrants are accounted for as paid-in capital and a debt discount. The remaining proceeds, as further reduced by discounts created by the bifurcation of embedded derivatives and beneficial conversion features, are allocated to the debt. The Company accounts for debt as liabilities measured at amortized cost and amortizes the resulting debt discount from the allocation of proceeds, to interest expense using the effective interest method over the expected term of the debt instrument. The Company considers whether there are any embedded features in debt instruments that require bifurcation and separate accounting as derivative financial instruments pursuant to ASC 815, *Derivatives and Hedging*.

If the amount allocated to the convertible debt results in an effective per share conversion price less than the fair value of the Company's common stock on the commitment date, the intrinsic value of this beneficial conversion feature is recorded as a discount to the convertible debt with a corresponding increase to additional paid in capital. The beneficial conversion feature discount is equal to the difference between the effective conversion price and the fair value of the Company's common stock at the commitment date, unless limited by the remaining proceeds allocated to the debt.

The Company may enter financing arrangements, the terms of which involve significant assumptions and estimates, including future net product sales, in determining interest expense, amortization period of the debt discount, as well as the classification between current and long-term portions. In estimating future net product sales, the Company assesses prevailing

market conditions using various external market data against the Company's anticipated sales and planned commercial activities. See Note 12 for discussion of the Scilex Notes, which include repayments based on a percentage of net sales of ZTlido® (lidocaine topical system 1.8%). Consequently, the Company imputes interest on the carrying value of the debt and record interest expense using an imputed effective interest rate. The Company reassesses the expected payments each reporting period and account for any changes through an adjustment to the effective interest rate on a prospective basis, with a corresponding impact to the classification of the Company's current and long-term portions.

Investments in Other Entities

The Company holds a portfolio of investments in equity securities that are accounted for under either the equity method or cost method. Investments in entities over which the Company has significant influence but not a controlling interest are accounted for using the equity method, with the Company's share of earnings or losses reported in loss on equity method investments.

All investments are reviewed on a regular basis for possible impairment. If an investment's fair value is determined to be less than its net carrying value and the decline is determined to be other-than-temporary, the investment is written down to its fair value. Such an evaluation is judgmental and dependent on specific facts and circumstances. Factors considered in determining whether an other-than-temporary decline in value has occurred include: the magnitude of the impairment and length of time that the estimated market value was below the cost basis; financial condition and business prospects of the investee; the Company's intent and ability to retain the investment for a sufficient period of time to allow for recovery in market value of the investment; issues that raise concerns about the investee's ability to continue as a going concern; any other information that the Company may be aware of related to the investment.

Research and Development Costs and Collaborations

All research and development costs are charged to expense as incurred. Such costs primarily consist of lab supplies, contract services, stock-based compensation expense, salaries and related benefits.

Acquired In-Process Research and Development Expense

The Company has acquired and may continue to acquire the rights to develop and commercialize new drug candidates. The up-front payments to acquire a new drug compound or drug delivery devices, as well as future milestone payments associated with asset acquisitions that do not meet the definition of derivative and are deemed probable to achieve the milestones, are immediately expensed as acquired in-process research and development provided that the drug has not achieved regulatory approval for marketing and, absent obtaining such approval, have no alternative future use. The acquired in-process research and development related to the business combination of Virttu Biologics Limited ("Virttu"), for which certain products are under development and expected to be commercialized in the future, was capitalized and recorded within "Intangibles, net" on the accompanying consolidated balance sheet. The Company commenced amortization of acquired in-process research and development related to the business combination of Scilex upon commercialization of ZTlido® (lidocaine topical system 1.8%) in October 2018. Capitalized in-process research and development will be reviewed annually for impairment or more frequently as changes in circumstance or the occurrence of events suggest that the remaining value may not be recoverable. (See Note 4 for further discussion of acquired in-process research and development expense related to the Sofusa acquisition).

Income Taxes

The provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 740 *"Income Taxes,"* addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under ASC Topic 740-10, the Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. The Company has determined that it has uncertain tax positions.

The Company accounts for income taxes using the asset and liability method to compute the differences between the tax basis of assets and liabilities and the related financial amounts, using currently enacted tax rates.

The Company has deferred tax assets, which are subject to periodic recoverability assessments. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount that more likely than not will be realized. As of December 31, 2018, the Company maintained a full valuation allowance against its deferred tax assets, with the exception of an amount equal to its deferred tax liabilities.

Revenue Recognition

The Company's revenues are generated from various NIH grant awards, license fees, product sales, the sale of customized reagents and other materials, and the provision of contract manufacturing and other services. The Company does not have significant costs associated with costs to obtain contracts with its customers. Substantially all of the Company's revenues and accounts receivable result from contracts with customers.

Grant Revenues

The revenue from the NIH grant awards is based upon subcontractor and internal costs incurred that are specifically covered by the grant, and where applicable, a facilities and administrative rate that provides funding for overhead expenses. These revenues are recognized when expenses have been incurred by subcontractors or when the Company incurs internal expenses that are related to the grant. Grant revenues were not material for the twelve months ended December 31, 2018.

Royalty and License Revenues

License fees for the licensing of product rights are recorded as deferred revenue upon receipt of cash and recognized as revenue on a straight-line basis over the license period, with the exception of license agreements with no remaining performance obligations or undelivered obligations. The Company applies judgment in determining the timing of revenue recognition related to contracts that include multiple performance obligations. The total transaction price of the contract is allocated to each performance obligation in an amount based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. For goods or services for which observable standalone selling prices are not available, the Company develops an estimated standalone selling price of each performance obligation.

As of December 31, 2018, the future performance obligations for royalty and license revenues relate to the ImmuneOncia Therapeutics, LLC ("ImmuneOncia") and NantCell, Inc. ("NantCell") license agreements.

The total consideration for the ImmuneOncia license performance obligation, effective September 1, 2016, represented $9.6 million. The estimated revenue expected to be recognized for future performance obligations, as of December 31, 2018 was approximately $8.5 million. The Company expects to recognize license revenue of approximately $0.5 million of the remaining performance obligation annually through the remaining term. The Company applied judgment in estimating the 20-year contract term, analogous to the expected life of the patent, over which revenue is recognized over time given the ongoing performance obligation related to the Company's participation on a steering committee for the technologies under the agreement.

As of December 31, 2018 and December 31, 2017, the NantCell license agreement, effective April 21, 2015, represented $110 million of contract liabilities reflected in long-term deferred revenue. See Note 11 for additional information regarding the remaining performance obligation for the agreement.

Sales and Services Revenues

Sales and services revenues are comprised of Scilex product sales of ZTlido® (lidocaine topical system 1.8%), contract manufacturing associated with sales of customized reagents at Concortis Biosystems Corp. ("Concortis"), materials and supply agreements, contract manufacturing services at BioServ Corporation, and the Company's joint development agreement with Celularity Inc.

The Company does not disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which it recognizes revenue at the amount to which it has the right to invoice for services performed. The Company applied the practical expedient in ASC Topic 606-10-50-14 to the revenue contracts for Concortis sales and services and materials and supply agreements due to the short-term length of such contracts.

The following table shows sales and service revenues disaggregated by product and services type for the years ended December 31, 2018, 2017 and 2016 (in thousands):

	Years Ended December 31,		
	2018	2017	2016
Scilex product sales	2,606	—	—
Concortis sales and services	5,159	4,049	2,223
Materials and supply agreements	3,267	553	879
Bioserv sales and services	5,992	5,000	—
Joint development agreement	3,333	1,667	—
	$ 20,357	$ 11,269	$ 3,102

The Company is obligated to accept from customers the return of products sold that are damaged or do not meet certain specifications. The Company may authorize the return of products sold in accordance with the terms of its sales contracts, and estimates allowances for such amounts at the time of sale. The Company has not experienced any sales returns.

Scilex Pharmaceuticals Inc. ("Scilex")

Revenues from Scilex product sales include sales of its ZTlido® (lidocaine topical system 1.8%). Scilex's performance obligation with respect to Scilex product sales is satisfied at a point in time, which transfers control upon delivery of product to the customer. The Company considers control to have transferred upon delivery because the customer has legal title to the asset, physical possession of the asset has been transferred to the customer, the customer has significant risks and rewards of ownership of the asset, and the Company has a present right to payment at that time. The Company identified a single performance obligation. Invoicing typically occurs upon shipment and the length of time between invoicing and when payment is due is not significant. The aggregate dollar value of unfulfilled orders as of December 31, 2018 was not material.

For Scilex product sales, the Company records gross-to-net sales adjustments for government and managed care rebates, chargebacks, wholesaler fees, sales returns and prompt payment discounts. Such variable consideration are estimated in the period of the sale and are estimated using a most likely amount approach based primarily upon provisions included in the Company's customer contract, customary industry practices and current government regulations and was not significant for the year ended December 31, 2018. There were no significant changes during the year ended December 31, 2018.

Concortis Biosystems Corporation ("Concortis")

Contract manufacturing associated with sales of customized reagents for Concortis operations relate to providing synthetic expertise to customers' synthesis by delivering proprietary cytotoxins, linkers and linker-toxins and ADC service using industry standard toxin and antibodies provided by customers which are recognized at a point in time upon the transfer of control, which is generally upon shipment given the short contract terms which are generally three months or less.

Materials and Supply Agreements

Revenues from the sale of materials associated with the Company's research and development arrangements are recognized at a point in time upon the transfer of control, which is generally, upon shipment. As of December 31, 2018, outstanding performance obligations related to materials and supply agreements was $0.9 million, of which $0.6 million is expected to be fulfilled during the next twelve months.

Bioserv Corporation ("Bioserv")

Revenues from contract manufacturing services associated with the Company's Bioserv operations related to finish and fill activities for drug products and reagents are recognized ratably over the contract term based on a time-based measure, which reflects the transfer of services to the customer, because the manufactured products are highly customized and do not have an alternative use to the Company. As of December 31, 2018 and 2017, the Company had approximately $0.4 million and $0.5 million of unbilled accounts receivable for which revenue has been recognized but not billed at the reporting date, respectively. As of December 31, 2018 and 2017, the Company had approximately $0.2 million and $0.4 million of upfront payments related to its contract manufacturing services included in deferred revenue, respectively.

As of December 31, 2018 and 2017, the estimated revenue expected to be recognized for future performance obligations associated with contract manufacturing services was approximately $1.6 million and $3.0 million, respectively.

The following table includes Bioserv sales and services revenue expected to be recognized in the future related to performance obligations that are undelivered or partially delivered at the end of the reporting period and do not include

contracts with original durations of one year or less (in thousands):

	2019	2020 and thereafter
Contract manufacturing services	$1,118	$529

Joint Development Agreement

On September 26, 2017, the Company entered into a joint development agreement with Celularity Inc. whereby the Company agreed to provide research services to Celularity Inc. through June 30, 2018 in exchange for an upfront payment of $5.0 million. The revenue related to the joint development agreement of $5.0 million was recognized over the length of the service agreement as services were performed. The Company recorded sales and services revenues under the joint development agreement of $3.3 million and $1.7 million for the years ended December 31, 2018 and 2017, respectively.

Stock-Based Compensation

The Company accounts for stock-based compensation in accordance with FASB ASC Topic 718 *"Compensation – Stock Compensation,"* which establishes accounting for equity instruments exchanged for employee services. Under such provisions, stock-based compensation cost is measured at the grant date, based on the calculated fair value of the award, and is recognized as an expense, under the straight-line method, over the employee's requisite service period (generally the vesting period of the equity grant).

The Company accounts for equity instruments, including restricted stock or stock options, issued to non-employees in accordance with authoritative guidance for equity based payments to non-employees. Stock options issued to non-employees are accounted for at their estimated fair value determined using the Black-Scholes option-pricing model. The fair value of options and restricted stock granted to non-employees is re-measured over the vesting period, and the resulting changes in fair value are recognized as expense in the period of the change in proportion to the services rendered to date.

Comprehensive (Loss) Income

Comprehensive (loss) income is primarily comprised of net income (loss) and adjustments for the change in unrealized gains and losses on the Company's investments in available-for-sale marketable securities, net of taxes. The Company displays comprehensive (loss) income and its components in its consolidated statements of comprehensive (loss) income.

Net Income (Loss) per Share

Basic net income (loss) per share is computed by dividing net loss for the period by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share reflects the additional dilution from potential issuances of common stock, such as stock issuable pursuant to the exercise of stock options or the exercise of outstanding warrants. The treasury stock method and if-converted method are used to calculate the potential dilutive effect of these common stock equivalents. Potentially dilutive shares are excluded from the computation of diluted net loss per share when their effect is anti-dilutive. In periods where a net loss is presented, all potentially dilutive securities are anti-dilutive and are excluded from the computation of diluted net loss per share.

During 2018, 2017 and 2016, the Company had securities outstanding which could potentially dilute basic earnings per share in the future, but were excluded from the computation of diluted net loss per share, as their effect would have been anti-dilutive.

These outstanding securities consist of the following:

	Years Ended December 31,		
	2018	2017	2016
Outstanding options	10,523,075	6,321,400	4,332,876
Outstanding warrants	25,635,117	4,708,860	7,740,340

Segment Information

The Company is engaged primarily in the discovery and development of innovative therapies focused on oncology and the treatment of chronic cancer pain as well as immunology and infectious diseases based on its platform technologies. Accordingly, the Company has determined that it operates in one operating segment.

Recent Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which supersedes all existing revenue recognition requirements, including most industry-specific guidance. The new standard requires a company to recognize revenue when it transfers goods or services to customers in an amount that reflects the consideration that the company expects to receive for those goods or services. ASU No. 2014-09 was originally effective for annual reporting periods beginning after December 15, 2016, and interim periods thereafter. In August 2015, the FASB issued ASU No. 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date, which delayed the effective date of the new standard for annual reporting periods beginning after December 15, 2017, and interim periods thereafter. The FASB also agreed to allow entities to choose to adopt the standard as of the original effective date. The standard allows for either a full retrospective or modified retrospective method of adoption. The Company adopted this standard on its effective date, January 1, 2018 under the modified retrospective method of adoption. Under this method, entities recognize the cumulative impact of applying the new standard at the date of adoption without restatement of prior periods presented. The cumulative effect of applying the new standard to contracts that were not completed as of January 1, 2018 did not have a material impact on the Company's consolidated financial position, results of operations or cash flows. Had ASC 605 continued to be applied for the year ended December 31, 2018, the effect of applying ASC 605 would not have had a material impact on the Company's consolidated financial position, results of operations or cash flows.

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. The ASU amends the guidance in GAAP on the classification and measurement of financial instruments. Changes to the current guidance primarily affect the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. ASU No. 2016-01 was effective for fiscal years and interim periods beginning after December 15, 2017, and upon adoption, an entity should apply the amendments by means of a cumulative-effect adjustment to the balance sheet at the beginning of the first reporting period in which the guidance is effective. Early adoption is not permitted except for the provision to record fair value changes for financial liabilities under the fair value option resulting from instrument-specific credit risk in other comprehensive income. The adoption of this standard did not have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In February 2016, the FASB issued ASU No. 2016-02, *Leases*. ASU No. 2016-02 is aimed at making leasing activities more transparent and comparable, and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating leases. ASU No. 2016-2 is effective for financial statements issued for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. In July 2018, the FASB issued ASU No. 2018-11, which allows for an alternative method to adopt the lease standard by recognizing a cumulative-effect adjustment to the opening balance sheet of retained earnings in the period of adoption, with no adjustment to prior comparative periods. ASU No. 2016-02 and all subsequent amendments (collectively, "ASC 842") were effective for public entities for annual reporting periods beginning after December 15, 2018, including interim periods therein. The Company will adopt ASC 842 during the first quarter of 2019 and has elected to apply the cumulative-effect adjustment to the opening balance sheet and optional transition method to not present comparable prior periods as allowed under ASU No. 2018-11. The Company also expects to make the following transitional practical expedients elections: (1) elect the short term lease exception, (2) not elect hindsight and (3) elect to not separate its non-lease components for its real estate, vehicle and equipment leases. While substantially complete, the Company is still in the process of finalizing its evaluation of the effect of ASC 842 on the Company's financial statements, disclosures, and internal controls and has determined that ASC 842 will have a material impact on its consolidated financial position. The Company is finalizing its determination of the incremental borrowing rate to be applied in the calculation of the operating right-of-use assets and operating lease liabilities. The Company will continue to report financial information for fiscal years ending before December 31, 2018 under the current lease accounting standard.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* to improve financial reporting by requiring timelier recording of credit losses on loans and other financial instruments held by financial institutions and other organizations. The ASU requires the measurement of all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions and reasonable and supportable forecasts. The ASU also requires enhanced disclosures to help investors and other financial statement users better understand significant estimates and judgments used in estimating credit losses, as well as the credit quality and underwriting standards of an organization's portfolio. The ASU is effective for fiscal years beginning after

December 15, 2019, including interim periods within those fiscal years. Early application will be permitted for all organizations for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact that the adoption of ASU No. 2016-13 will have on its consolidated financial position, results of operations and cash flows.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, to improve financial reporting in regards to how certain transactions are classified in the statement of cash flows. The ASU requires that (1) debt extinguishment costs be classified as cash outflows for financing activities and provides additional classification guidance for the statement of cash flows, (2) the classification of cash receipts and payments that have aspects of more than one class of cash flows to be determined by applying specific guidance under generally accepted accounting principles, and (3) each separately identifiable source or use within the cash receipts and payments be classified on the basis of their nature in financing, investing or operating activities. The ASU was effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The adoption of this standard did not have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash (a consensus of the FASB Emerging Issues Task Force)*. The ASU requires the statement of cash flows to explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents are to be included with cash and cash equivalents when reconciling the beginning of period and end of period amounts shown on the statement of cash flows. The ASU was effective for the Company for annual reporting periods beginning after December 15, 2017 and was required to be adopted using a retrospective approach, if applicable, with early adoption permitted. The Company adopted the new standard on January 1, 2018. The adoption of this ASU impacted the presentation of cash flows with the inclusion of restricted cash for the year ended December 31, 2018.

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, to clarify the definition of a business to add guidance for evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. Specifically, this ASU provides a screen to assist entities in determining when a set should not be considered a business, which screen provides that if substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or group of similar assets, the set is not a business. The ASU was effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The Company applied this standard in the evaluation of the Sofusa acquisition. (See Note 4).

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment (Topic 350)*. This standard eliminates Step 2 from the goodwill impairment test, instead requiring an entity to recognize a goodwill impairment charge for the amount by which the goodwill carrying amount exceeds the reporting unit's fair value. This guidance is effective for interim and annual goodwill impairment tests in fiscal years beginning after December 15, 2019 with early adoption permitted. This guidance must be applied on a prospective basis. The Company is currently evaluating the impact that the adoption of ASU No. 2017-04 will have on the Company's consolidated financial position, results of operations or cash flows.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation - Stock Compensation (Topic 718): Scope of Modification Accounting*, to provide clarity and reduce both the diversity in practice and cost of complexity when applying the guidance. Specifically, the ASU provides additional modification conditions in determining whether or not modification accounting should be applied. The ASU was effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The adoption of this standard did not have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In February 2018, the FASB issued ASU No. 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, to allow a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act and improves the usefulness of information reported to financial statement users. The ASU is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The adoption of this standard is not expected to have a material impact on the Company's consolidated financial position, results of operations or cash flows.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, to include share-based payment transactions for acquiring goods and services from nonemployees. The ASU is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact that the adoption of ASU No. 2018-07 will have on the Company's consolidated financial position, results of operations or cash flows.

In August 2018, the FASB issued ASU No. 2018-13, *Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement,* to improve the effectiveness of the disclosure requirements for fair value measurements. The ASU is effective for fiscal years and interim periods beginning after December 15, 2019. Amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty will be applied prospectively as of the beginning of the fiscal year of adoption with all other amendments being applied retrospectively to all periods presented upon their effective date. Early adoption is permitted. The Company is evaluating the impact the standard will have on its consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.* The amendments in this update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The amendments in this update are effective for interim and annual periods for the Company beginning on January 1, 2020, with early adoption permitted. The amendments in this update may be applied either retrospectively or prospectively. The Company is evaluating the impact the standard will have on its consolidated financial statements.

In November 2018, the FASB issued ASU No. 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction Between Topic 808 and Topic 606.* The amendments in this update provide guidance on how to assess whether certain transactions between collaborative arrangement participants should be accounted for within the revenue recognition standard. The amendments in this update are effective for interim and annual periods for the Company beginning on January 1, 2020, with early adoption permitted. The Company is evaluating the impact the standard will have on its consolidated financial statements.

4. Acquisitions

Sofusa® Acquisition

On July 2, 2018, the Company entered into an Asset Purchase Agreement (the "Sofusa Purchase Agreement") with Kimberly-Clark Corporation ("KCC"); Kimberly-Clark Global Sales, LLC ("KCCGS"); and Kimberly-Clark Worldwide, Inc. ("KCCW" and together with KCC and KCCGS, "Kimberly-Clark") pursuant to which, among other things, the Company acquired certain of Kimberly-Clark's assets related to micro-needle drug delivery system, including the Sofusa® platform (the "Sofusa Assets") and related fixed assets, and assumed certain of Kimberly-Clark's liabilities related to the Sofusa Assets (the "Sofusa Acquisition"). The closing of the Sofusa Acquisition (the "Sofusa Closing") occurred on July 2, 2018. At the Sofusa Closing, the Company paid $10.0 million and agreed to pay additional consideration to Kimberly-Clark upon the achievement of certain regulatory and net sales milestones, as well as a percentage in the low double-digits of any non-royalty amounts received by the Company in connection with any license, sale or other grant of rights by the Company to develop or commercialize the Sofusa Assets (all such additional consideration, the "Sofusa Contingent Consideration"). Under the Sofusa Purchase Agreement, the aggregate amount of the Sofusa Contingent Consideration payable by the Company will not exceed $300.0 million. The Company also agreed to pay Kimberly-Clark a low single-digit royalty on all net sales with respect to the first five products developed by the Company or its licensees that utilizes intellectual property included in the Sofusa Assets. The transaction was accounted for as an asset acquisition since substantially all the value of the gross assets was concentrated in a single asset. Under the Asset Purchase Agreement, the Company acquired the Sofusa DoseDisc micro-needle technology designed to increase the efficacy of drug delivery by way of transdermal drug delivery for cash consideration of $10.0 million which was allocated based on the relative fair value of the assets acquired. No contingent consideration was recorded as of December 31, 2018 since the related regulatory approval milestones are not deemed probable until they actually occur. As a result, $9.5 million was expensed as a component of acquired in-process research and development and the remaining $0.5 million was recorded primarily to fixed assets.

Acquisition of Virttu Biologics Limited

On April 27, 2017, the Company entered into a Share Purchase Agreement (the "Virttu Purchase Agreement") with TNK Therapeutics, Inc., a majority-owned subsidiary of the Company ("TNK"), Virttu Biologics Limited ("Virttu"), the shareholders of Virttu (the "Virttu Shareholders") and Dayspring Ventures Limited, as the representative of the Virttu Shareholders, pursuant to which, among other things, TNK acquired from the Virttu Shareholders 100% of the outstanding ordinary shares of Virttu (the "Virttu Acquisition").

Virttu focuses on the development of oncolytic viruses that infect and selectively multiply in and destroy tumor cells without damaging healthy tissue. Its lead oncolytic virus candidate, Seprehvir, infects and replicates in cancer cells selectively, leaving normal cells unharmed.

Under the Virttu Purchase Agreement, the total amount of the consideration payable to the Virttu Shareholders in the Virttu Acquisition is equal to $25 million, less Virttu's net debt (the "Virttu Base Consideration"). An additional $10 million contingent consideration is payable upon the achievement of certain regulatory milestones (as described below) (the "Regulatory Approval Consideration").

At the closing of the Virttu Acquisition (the "Closing"), the Company issued to the Virttu Shareholders consideration valued at approximately $2.2 million, which consisted primarily of an aggregate of 797,081 shares (the "Virttu Closing Shares") and approximately $557,000 in cash (the "Cash Consideration"). The issuance of the Virttu Closing Shares and the payment of the Cash Consideration satisfied TNK's obligation to pay 20% of the Virttu Base Consideration at the Closing. Under the terms of the Virttu Purchase Agreement, the Company agreed to provide additional consideration to the Virttu Shareholders, as follows:

(1) Upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $50.0 million (a "Qualified Financing"), TNK agreed to issue to the Virttu Shareholders an aggregate number of shares of its capital stock ("TNK Capital Stock") as is equal to the quotient obtained by dividing 80% of the Virttu Base Consideration by the lowest per share price paid by investors in the Qualified Financing (the "TNK Financing Consideration"); provided, however, that 20% of the TNK Financing Consideration was to be held in escrow until April 27, 2018 (the "Financing Due Date"), to be used to, among other things, satisfy the indemnification obligations of the Virttu Shareholders. In the event that a Qualified Financing did not occur, then on the Financing Due Date, the Company agreed to issue to the Virttu Shareholders an aggregate number of shares of the Company's common stock as is equal to the quotient obtained by dividing 80% of the Virttu Base Consideration, by $5.55 (as adjusted, as appropriate, to reflect any stock splits or similar events affecting the Company's common stock after the Closing).

(2) Within 45 business days after Virttu becomes aware that certain governmental bodies in the United States, the European Union, the United Kingdom or Japan have approved for commercialization, on or before October 26, 2024, Seprehvir (or any enhancement, combination or derivative thereof) as a monotherapy or in combination with one or more other active components (each of the first two such approvals by a governmental body being a "Regulatory Approval"), TNK shall pay half of the Regulatory Approval Consideration to the Virttu Shareholders, in a combination of (a) up to $5.0 million in cash (the "Regulatory Approval Cash") and/or (b) (i) such number of shares of the Company's common stock as is equal to the quotient obtained by dividing $5.0 million less the Regulatory Approval Cash (the "Regulatory Approval Share Value") by the 30 Day VWAP (as defined below) of one share of the Company's common stock; (ii) if TNK has completed its first public offering of TNK Capital Stock, the number of shares of TNK Capital Stock as is equal to the quotient obtained by dividing the Regulatory Approval Share Value by the 30 Day VWAP of one share of TNK Capital Stock; or (iii) such number of shares of common stock of a publicly traded company as is equal to the quotient obtained by dividing the Regulatory Approval Share Value by the volume weighted average price of the relevant security, as reported on the Nasdaq Capital Market (or other principal stock exchange or securities market on which the shares are then listed or quoted) for the thirty trading days immediately following the receipt of Regulatory Approval (the "30 Day VWAP"), with the composition of the Regulatory Approval Consideration to be at TNK's option. In order for a second regulatory approval to qualify as a Regulatory Approval under the Purchase Agreement, the second approval must be granted by a different governmental body in a different jurisdiction than that which granted the first Regulatory Approval.

At April 27, 2017, the 80% of the Virttu Base Consideration was valued at $12.8 million. The fair value of the 80% of the Virttu Base Consideration is recorded as a current liability and will be adjusted quarterly for changes in fair value or as events and circumstances arise. At April 27, 2017, the contingent Regulatory Approval Consideration was valued at $1.0 million. The fair value of the contingent Regulatory Approval Consideration is recorded as a non-current liability within "Deferred rent and other" on the accompanying consolidated balance sheet and will be adjusted quarterly for changes in fair value or as events and circumstances arise.

The consolidated financial statements include the results of operations from this transaction, which have been accounted for as a business combination, and require, among other things, that assets acquired and liabilities assumed be recognized at their fair values as of the acquisition date. The valuation of the acquired assets and liabilities resulted in the recognition of identifiable assets of approximately $16.0 million comprised mainly of in-process research and development of approximately $15.4 million, deferred tax liabilities of $0.8 million and goodwill of approximately $1.4 million. Various factors contributed to the establishment of goodwill, including an assembled workforce. There is no tax deductible goodwill for Virttu.

In connection with the Virttu transaction, the Company recorded acquisition costs of approximately $0.9 million in general and administrative expenses for the twelve months ended December 31, 2017, for legal and related costs. Acquisition costs are expensed as incurred.

The acquisition of Virttu was not significant to the Company's consolidated financial statements.

TNK did not complete a Qualified Financing prior to the Financing Due Date and on April 27, 2018. The Company, TNK and Dayspring entered into the Amendment, pursuant to which, among other things, the Company agreed that the acquisition consideration, otherwise payable on April 27, 2018 to the Virttu Shareholders, shall be as follows: (1) an issuance of 1,795,011 shares of the Company's common stock to the Virttu Shareholders and (2) $9.9 million payable in cash.

The Company issued an aggregate of 1,795,011 shares of the Company's common stock to the Virttu Shareholders on April 27, 2018 for a value of $11.3 million. The approximately $9.9 million payable in cash is recorded on the Company's consolidated balance sheet under Acquisition Consideration Payable and has not been paid as of the date of this filing.

Acquisition of Scilex Pharmaceuticals Inc.

On November 8, 2016, the Company entered into a Stock Purchase Agreement (the “Scilex Purchase Agreement”) with Scilex and a majority of the stockholders of Scilex (the “Scilex Stockholders”) pursuant to which, on November 8, 2016, the Company acquired from the Scilex Stockholders, and the Scilex Stockholders sold to the Company, approximately 72% of the outstanding capital stock of Scilex (the “Scilex Acquisition”). The remainder of the outstanding capital stock of Scilex represents a noncontrolling interest of which approximately 19.3% continues to be held by ITOCHU CHEMICAL FRONTIER CORPORATION following the Scilex Acquisition.

Scilex focuses on the development and commercialization of specialty pharmaceutical products for the treatment of pain; its lead product, ZTlido® (lidocaine topical system 1.8%), is a branded lidocaine topical system formulation for the treatment of chronic pain. As discussed in Note 17, ITOCHU CHEMICAL FRONTIER Corporation serves as the sole manufacturer and supplier to Scilex for the ZTlido® product.

At the closing of the Scilex Acquisition, the Company issued to the Scilex Stockholders that were accredited investors (the “Accredited Scilex Stockholders”) consideration valued at $4.8 million which consisted primarily of an aggregate of 754,911 shares of the Company’s common stock (the “Common Stock”). Under the terms of the Scilex Purchase Agreement, the Company agreed to provide additional consideration to the Accredited Scilex Stockholders upon the achievement of certain milestones, as follows:

(1) Upon receipt of notice from the U.S. Food and Drug Administration (the “FDA”) that the FDA has accepted Scilex’s resubmitted new drug application for ZTlido® (lidocaine topical system 1.8%) for the treatment of postherpetic neuralgia (the “NDA”), the Company agreed to deliver to the Accredited Scilex Stockholders a number of shares of Common Stock equal to the quotient obtained by dividing 10% of the total undiscounted purchase consideration of approximately $47.8 million (the “Adjusted Base Consideration”) by a price (the “FDA Acceptance Price”) equal to the closing market price of one share of Common Stock, as reported by The Nasdaq Stock Market LLC (“Nasdaq”) on the date of Scilex’s receipt of the FDA notice or, if no closing price is reported for such date, the closing price on the last preceding date for which such quotation exists; provided, however, that in no event was the FDA Acceptance Price to be greater than $25.32 or less than $6.33 (in each case as adjusted, as appropriate, to reflect any stock splits or similar events affecting the Common Stock).

On September 11, 2017, the Company received notice from the FDA that the FDA had accepted the NDA and the Company issued to the Accredited Scilex Stockholders consideration valued at $1.4 million, which consisted primarily of an aggregate of 754,930 shares of Common Stock.

(2) Upon receipt of notice from the FDA that the FDA has approved the NDA for commercialization, the Company will deliver to the Accredited Scilex Stockholders cash and shares of Common Stock in such proportion to be determined in the Company’s sole discretion, with a total value equal to 80% of the Adjusted Base Consideration (the “FDA Approval Consideration”). To the extent that the Company elects to pay any portion of the FDA Approval Consideration in shares of Common Stock, the number of shares shall be equal to the quotient obtained by dividing (a) the portion of the FDA Approval Consideration to be paid in shares of Common Stock by (b) a price (the “FDA Approval Price”) equal to the closing market price of one share of Common Stock, as reported by Nasdaq on the date of the Scilex’s receipt of the FDA notice or, if no closing price is reported for such date, the closing price on the last preceding date for which such quotation exists; provided, however, that in no event shall the FDA Approval Price be greater than $25.32 or less than $6.33 (in each case as adjusted, as appropriate, to reflect any stock splits or similar events affecting the Common Stock). However, in no event may the Company make an election with respect to the FDA Approval Consideration so as to cause the total number of shares of Common Stock issued in connection with the Scilex Acquisition to exceed 4.99% of the total number of shares of Common Stock of the Company outstanding as of immediately prior to the Closing (as adjusted, as appropriate, to reflect any stock splits or similar

events affecting the Common Stock), unless the Company has obtained stockholder approval to issue a greater number of shares.

On February 28, 2018, the Company received notice that the FDA had approved the NDA and the Company issued the Accredited Scilex Stockholders consideration valued at $38.2 million, which included an aggregate of 1,381,346 shares of Common Stock.

At November 8, 2016, the contingent consideration was valued at $33.5 million, resulting in a total purchase consideration of approximately $38.2 million. The fair value of the contingent consideration is recorded as a current liability and will be periodically adjusted for changes in fair value or as events and circumstances arise. The remainder of the outstanding capital stock of Scilex represents a noncontrolling interest which was valued at $12.3 million at November 8, 2016.

The consolidated financial statements include the results of operations from this transaction, which have been accounted for as a business combination, and require, among other things, that assets acquired and liabilities assumed be recognized at their fair values as of the acquisition date. The valuation of the acquired assets resulted in the recognition of identifiable assets of approximately $54.9 million comprised mainly of in-process research and development of $21.9 million and patents of $32.6 million. The valuation of the acquired liabilities resulted in the recognition of liabilities of approximately $17.9 million comprised mainly deferred tax liabilities of $13.9 million. The Company recorded goodwill of $13.5 million associated with the acquisition. The amounts in this Note reflect the adjustment described above. Various factors contributed to the establishment of goodwill, including an assembled workforce. There is no tax deductible goodwill for Scilex.

Acquired In-process Research and Development of BDL

In August 2015, the Company and TNK entered into a Stock Purchase Agreement (the "Stock Purchase Agreement") with BDL Products, Inc. ("BDL") and the stockholders of BDL ("Stockholders") pursuant to which the Stockholders sold all of their shares of capital stock in BDL to TNK for: (1) a cash payment of $100.00, and (2) $6.0 million in shares of TNK Class A Stock, subject to adjustment in certain circumstances, to be issued to the Stockholders upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $50.0 million (a "Qualified Financing"). In accordance with subsequent amendments to the Stock Purchase Agreement, in the event a Qualified Financing did not occur by October 15, 2017 (which is subject to further extension as implied and based on previously amended dates) or TNK did not complete an initial public offering of shares of its capital stock by September 15, 2017, in lieu of receiving shares of TNK pursuant to the acquisition, the Stockholders were entitled to receive an aggregate of 309,916 shares of the Company's common stock, subject to adjustment in certain circumstances.

A Qualified Financing did not occur by October 15, 2017 and TNK did not complete an initial public offering by September 15, 2017 and the Company issued 309,916 shares of its common stock to the Stockholders on March 19, 2018.

Acquired In-process Research and Development of Cargenix

In August 2015, the Company and TNK Therapeutics, Inc., its subsidiary ("TNK") entered into a Membership Interest Purchase Agreement (the "Membership Interest Purchase Agreement") with CARgenix Holdings LLC ("CARgenix") and the members of CARgenix (the "Members") pursuant to which the Members sold all of their membership interests in CARgenix to TNK for: (1) a cash payment of $100.00, and (2) $6.0 million in shares of TNK Class A common stock ("TNK Class A Stock"), subject to adjustment in certain circumstances, to be issued to the Members upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $50.0 million (a "Qualified Financing"). In accordance with an amendment to the Membership Interest Purchase Agreement entered into in March 2016, in the event a Qualified Financing did not occur by September 15, 2016 or TNK did not complete an initial public offering of shares of its capital stock by October 15, 2016, in lieu of receiving shares of TNK pursuant to the acquisition, the Members would receive an aggregate of 309,917 shares of the Company's common stock, subject to adjustment in certain circumstances. TNK did not complete a Qualified Financing by the amended financing deadline and the Company issued 309,917 shares of its common stock to the Members on October 7, 2016.

5. Fair Value Measurements

Fair value measurement is defined as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy is established, which prioritizes the inputs used in measuring fair value into three broad levels as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.

Level 2—Inputs, other than quoted prices in active markets, that are observable either directly or indirectly.

Level 3—Unobservable inputs based on the Company's own assumptions.

The following table presents the Company’s financial assets and liabilities that are measured at fair value on a recurring basis (in thousands):

	Fair Value Measurements at December 31, 2018			
	Balance	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash and cash equivalents	$ 158,738	$ 158,738	$ —	$ —
Restricted cash	54,592	54,592	—	—
Marketable securities	297	247	—	50
Total assets	$ 213,627	$ 213,577	$ —	$ 50
Liabilities:				
Acquisition consideration payable	$ 11,312	$ —	$ —	$ 11,312
Acquisition consideration payable, non-current	725	—	—	725
Total liabilities	$ 12,037	$ —	$ —	$ 12,037

	Fair Value Measurements at December 31, 2017			
	Balance	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash and Cash Equivalents	$ 20,429	$ 20,429	$ —	$ —
Marketable securities	441	356	—	85
Total assets	$ 20,870	$ 20,785	$ —	$ 85
Liabilities:				
Acquisition consideration payable	$ 53,209	$ —	$ —	$ 53,209
Acquisition consideration payable, non-current	1,063			1,063
Total liabilities	$ 54,272	$ —	$ —	$ 54,272

The Company's financial assets and liabilities carried at fair value are comprised of cash, cash equivalents, restricted cash, marketable securities and acquisition consideration payable. Cash and cash equivalents consist of money market accounts and bank deposits which are highly liquid and readily tradable. These investments are valued using inputs observable in active markets for identical securities. Marketable securities are valued using inputs observable in active markets for identical securities. The fair value of the contingent consideration is measured on a recurring basis using significant unobservable inputs (Level 3). Contingent consideration is measured using the income approach and discounting to present value the contingent payments expected to be made based on assessment of the probability that the company would be required to make such future payment.

In connection with the issuance of the Loan Agreement as described in Note 12, the Company recorded a derivative liability associated with the Conditional Warrants in the amount of $2.8 million, which balance was immaterial as of December 31, 2018 based on the probability of achieving certain milestones and resulted in a $2.8 million gain on derivative liability recorded during the quarter ended December 31, 2018. Such derivative liability was valued using a Monte Carlo simulation model using significant unobservable inputs (Level 3) related to the probability of achieving certain commercial and financial milestones as outlined in the Loan Agreement.

The following is a summary of the contingent consideration liabilities associated with acquisitions entered into during the years ended 2017 and 2016. During the year ended December 31, 2018, the fair value remeasurement adjustments related to the Company's acquisitions resulted in an increase to the contingent consideration liabilities by $9.6 million and there were $51.9 million in settlements of contingent consideration related to such liabilities. Settlements of contingent consideration for the twelve months ended December 31, 2018 include the settlements of Scilex and BDL liabilities for $38.2 million and $2.3 million, respectively, and the $11.3 million partial settlement of the Virttu financing milestone in common stock of the Company ($9.9 million of the Virttu contingent liability remains to be paid in cash).

The following tables includes a summary of the changes to contingent consideration liabilities during the year ended December 31, 2018, 2017 and 2016. The contingent consideration is measured at fair value using significant unobservable inputs (Level 3) during the twelve months ended December 31, 2018, 2017 and 2016:

(in thousands)	2018
Beginning Balance at December 31, 2017	54,272
Re-measurement of Fair Value	9,644
Settlements of current year contingent consideration	(51,879)
Ending Balance at December 31, 2018	$ 12,037

(in thousands)	2017
Beginning Balance at December 31, 2016	48,362
Scilex acquisition adjustment (See Note 4)	(6,500)
Acquisition consideration payable - current year acquisitions (See Note 4)	12,807
Contingent consideration (Non-current) - current year acquisitions (See Note 4)	983
Re-measurement of Fair Value	—
Payment of shares for current year contingent consideration	(1,380)
Ending Balance at December 31, 2017	$ 54,272

(in thousands)	2016
Beginning Balance at December 31, 2015	—
Contingent consideration - current year acquisitions (1)	50,137
Re-measurement of Fair Value – current year acquisitions	(1,775)
Payment of current year contingent consideration	—
Ending Balance at December 31, 2016	$ 48,362

(1) Includes the BDL contingent consideration of 309,917 shares.

The following table includes a summary of the Company's contingent and financing liabilities, related inputs used to determine fair value, and the valuation methodologies used for the fair value measurements using significant unobservable inputs (Level 3) at December 31, 2018:

(in thousands)	Fair Value Measurements at December 31, 2018	Valuation Methodology	Significant Unobservable Input	Weighted Average (range, if applicable)
Virttu Contingent Consideration (Non-Current)	$ 725	Multiple outcome discounted cash flow	Discount Rate Probability of Regulatory Milestone	19.2% 16%
Concortis Contingent Consideration	511	Multiple outcome discounted cash flow	Discount Rate Percent probabilities assigned to scenarios	19.2% 20%
Shanghai Three Contingent Consideration	336	Multiple outcome discounted cash flow	Discount Rate Percent probabilities assigned to scenarios	19.2% 10%
RWMC Contingent Consideration	503	Multiple outcome discounted cash flow	Discount Rate, Percent probabilities assigned to scenarios	19.2% 10%

The principal significant unobservable inputs used in the valuations of the contingent considerations are the discount rates, and probabilities assigned to scenario outcomes. An increase in the discount rate will cause a decrease in the fair value of the contingent consideration. Conversely, a decrease in the discount rate will cause an increase in the fair value of the contingent consideration. An increase in the probabilities assigned to certain scenarios will cause the fair value of contingent consideration to increase. Conversely, a decrease in the probabilities assigned to certain scenarios will cause the fair value of contingent considerations to decrease.

6. Marketable Securities

Marketable securities consisted of the following as of December 31, 2018 (in thousands):

	December 31, 2018		
	Cost	Gross Realized Gains (Losses)	Fair Value
Trading securities:			
MedoveX common shares and warrants	$ 750	$ (453)	$ 297

	December 31, 2017		
	Cost	Gross Realized Gains (Losses)	Fair Value
Trading securities:			
MedoveX common shares and warrants	$ 750	$ (309)	$ 441

Trading Securities

On August 5, 2016, the Company entered into a Unit Purchase Agreement (the "Unit Purchase Agreement") with MedoveX Corporation ("MedoveX"). Pursuant to the terms of the Unit Purchase Agreement, the Company purchased three Units for $750 thousand. Each Unit had a purchase price of $250 thousand and consisted of (i) 208,333 shares of MedoveX common stock (the "MedoveX Common Stock"), and (ii) a warrant to purchase 104,167 shares of MedoveX Common Stock (the "MedoveX Warrant"). The MedoveX Warrant has an initial exercise price of $1.52 per share, subject to adjustment, and is initially exercisable six months following the date of issuance for a period of five years from the date of issuance. In addition, the Company entered into a Registration Rights Agreement with MedoveX pursuant to which MedoveX was required to file a registration statement registering for resale all shares of MedoveX Common Stock and shares of MedoveX Common Stock issuable pursuant to the MedoveX Warrant issued as part of the Units.

For the twelve months ended December 31, 2018 and 2017, the Company recorded a loss of $0.1 million and a loss of $0.7 million on trading securities, respectively. The Company's investment in MedoveX will be revalued on each balance sheet date. The fair value of the Company's holding in MedoveX Common Stock at December 31, 2018 is a Level 1 measurement. The fair value of the Company's holdings in the MedoveX Warrant was estimated using the Black-Scholes option-pricing method. The risk-free rate was derived from the U.S. Treasury yield curve, matching the MedoveX Warrant's term, in effect at the measurement date. The volatility factor was determined based on MedoveX's historical stock prices. The warrant valuation is a Level 3 measurement.

The following table includes a summary of the warrant measured at fair value using significant unobservable inputs (Level 3) during the twelve months ended December 31, 2018 (in thousands):

	Total
Beginning balance at December 31, 2017	$ 84
Addition of warrant	—
Change in fair value of warrant	(34)
Ending balance at December 31, 2018	$ 50

Available-for-sale Securities

In July 2016, the Company completed the transactions contemplated by a letter agreement (the "Letter Agreement") with the Chan Soon-Shiong Family Foundation ("Foundation") and Cambridge Equities, LP ("Cambridge"). Pursuant to the terms of

the Letter Agreement, among other things, (i) the Company agreed to sell to Foundation, and Foundation agreed to purchase from the Company, an aggregate of 5,618,326 shares of common stock of NantKwest held by the Company (representing all shares of NantKwest held by the Company), (ii) Foundation agreed to sell to the Company, and the Company agreed to purchase all reported shares held by Foundation and Cambridge, constituting an aggregate of 7,878,098 shares of Common Stock, (iii) Cambridge agreed to forfeit its right to purchase 500,000 shares of Common Stock issuable pursuant to a warrant to purchase 1,724,138 shares of Common Stock issued by the Company, and (iv) the Company agreed to pay to Foundation an aggregate of approximately $15.6 million. Effective upon closing, the Company repurchased the 7,878,098 shares of Common Stock. The Company recognized a gain of $27.2 million on the sale of the NantKwest stock in its consolidated statement of operations for the twelve months ended December 31, 2016 as a result of the transaction.

7. Property and Equipment

Property and equipment consisted of the following as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Furniture and fixtures	$ 1,127	$ 1,035
Office equipment	632	493
Machinery and lab equipment	27,690	19,868
Leasehold improvements	9,001	7,327
Construction in progress	1,221	—
	39,671	28,723
Less accumulated depreciation	(15,287)	(9,378)
	$ 24,384	$ 19,345

Depreciation expense for the years ended December 31, 2018, 2017 and 2016 was $6.0 million, $4.5 million and $2.0 million, respectively.

8. Cost Method Investments

As of December 31, 2018 and 2017, the aggregate carrying amount of the Company's cost-method investments in non-publicly traded companies was $237.0 million and included an ownership interest in NantCell, Inc. ("NantCell"), NantBioScience, Inc. ("NantBioScience"), Globavir Biosciences, Inc., Brink Biologics, Inc., Coneksis, Inc., and Celularity Inc.

The Company's cost-method investments are assessed for impairment quarterly. The Company has determined that it is not practicable to estimate the fair value of its cost-method investments on a regular basis and does not reassess the fair value of cost-method investments if there are no identified events or changes in circumstances that may have a significant adverse effect on the fair value of the investments. No impairment losses were recorded during the years ended December 31, 2018, 2017 and 2016.

9. Equity Method Investments

NANTibody

In 2013, the Company acquired IgDraSol Inc. ("IgDraSol"), a private company focused on the development of oncologic agents for the treatment of cancer, from a third party unrelated to the NantWorks, LLC ("NantWorks") affiliated entities for 3 million shares of the Company's common stock and $380,000 of cash for a total purchase price of $29.1 million. This transaction included the acquisition of IgDraSol's lead compound, Cynviloq™, a micellar diblock copolymeric paclitaxel formulation drug product.

In May 2015, the Company entered into an agreement with NantPharma, LLC ("NantPharma"), a NantWorks company, pursuant to which the Company sold to NantPharma all of its equity interests in IgDraSol, which continued to hold the rights to Cynviloq™. Pursuant to the agreement, NantPharma paid the Company an upfront fee of $90.1 million, of which $60.0 million was required to be used by the Company to fund two joint ventures, as described below.

In April 2015, the Company and NantCell, a subsidiary of NantWorks, LLC ("NantWorks"), a private company owned by Dr. Patrick Soon-Shiong, established a new entity called Immunotherapy NANTibody, LLC ("NANTibody") as a stand-alone biotechnology company with $100.0 million initial joint funding. NantCell owns 60% of the equity interest of

NANTibody and agreed to contribute $60.0 million to NANTibody. The Company owns 40% of NANTibody and in July 2015, the Company had NantPharma, LLC (“NantPharma”) contribute its portion of the initial joint funding of $40.0 million to NANTibody from the proceeds of the sale of IgDraSol, Inc. (“IgDraSol”). Additionally, the Company and NantCell were allowed to appoint three and two representatives, respectively, to NANTibody’s five-member Board of Directors. NANTibody will focus on accelerating the development of multiple immuno-oncology mAbs for the treatment of cancer, including but not limited to anti-PD-1, anti-PD-L1, anti-CTLA4mAbs, and other immune-check point antibodies as well as ADCs and bispecific antibodies.

NANTibody had been formed to advance pre-clinical and clinical immunology assets contributed by the Company and NantCell. The Company continues to hold 40% of the outstanding equity of NANTibody and NantCell holds the remaining 60%. Until July 2, 2017, NANTibody held approximately $100.0 million of cash and cash equivalents, and the Company recorded its investment in NANTibody at approximately $40.0 million. As an equity method investment, the Company's ratable portion of 40% of money expended for the development of intellectual property assets held by NANTibody would be reflected within income (loss) on equity method investments in its statement of operations. As a result of limited spending at NANTibody, the cash on hand at NANTibody remained at approximately $100.0 million since the inception of the NANTibody joint venture until July 2, 2017. Further, the Company's equity method investment in NANTibody remained at approximately $40.0 million until July 2, 2017.

The financial statements of NANTibody are not received sufficiently timely for the Company to record its portion of earnings or loss in the current financial statements and therefore the Company reports its portion of earnings or loss on a quarter lag.

In February 2018, NANTibody notified the Company that on July 2, 2017, NANTibody acquired all of the outstanding equity of IgDraSol in exchange for $90.1 million in cash. NANTibody purchased IgDraSol from NantPharma, LLC, which is controlled by NantWorks, an entity with a controlling interest in NantCell and NantPharma.

Although the Company has had a designee serving on the Board of Directors of NANTibody since the formation of NANTibody in April 2015, and although the Company has held 40% of the outstanding equity of NANTibody since NANTibody’s formation, neither the Company nor its director designee was given any advance notice of NANTibody’s purchase of IgDraSol or of any board meeting or action to approve such purchase. As such, the Company's designee on NANTibody’s Board of Directors was not given an opportunity to consider or vote on the transaction as a director and the Company was not given an opportunity to consider or vote on the transaction in its position as a significant (40%) equity holder of NANTibody.

As a result of the July 2, 2017 purchase of IgDraSol, NANTibody’s cash and cash equivalents were reduced from $99.6 million as of June 30, 2017 to $9.5 million as of September 30, 2017, and NANTibody’s contributed capital was reduced from $100.0 million as of June 30, 2017 to $10.0 million as of September 30, 2017, to effect the transfer of IgDraSol from NantPharma to NANTibody. No additional information was provided to the Company to explain why NANTibody’s total assets as of September 30, 2017 were reduced by approximately $90.1 million. The Company requested, but did not receive, additional information from NANTibody for purposes of supporting the value of IgDraSol, including any information regarding clinical advancements in the entity since the sale of IgDraSol by the Company in May 2015.

Prior to the communication of the transfer of IgDraSol from NantPharma to NANTibody, the Company relied on the cash and cash equivalents of NANTibody for purposes of determining the value of its investment in NANTibody, which capital was expended by NANTibody to acquire IgDraSol on July 2, 2017. As a result of the transfer of IgDraSol, the Company reassessed the recoverability of its equity method investment in NANTibody as of July 2, 2017. In doing so, the Company considered the expected outcomes for the intellectual property assets held by NANTibody as of July 2, 2017. As a result of the lack of evidence of any development activity associated with any of the assets held in NANTibody, given the passage of time since the formation of the joint venture, many competitive products from other drug developers worldwide have advanced and/or commercialized for the targeted disease indications of the assets held in NANTibody, and given the Company's minority interest in NANTibody (the investee), the Company concluded that it does not have the ability to recover the carrying amount of the investment and an other-than-temporary decline in the value of the investment had occurred. Accordingly, an impairment was recorded to the Company's equity method investment in NANTibody for the three and nine months ended September 30, 2017. The fair value of the Company’s investment in NANTibody was measured at fair value on July 2, 2017 using significant unobservable inputs (Level 3) due to the determination of fair value requiring significant judgment, including the potential outcomes of the intellectual property assets held by NANTibody. For these reasons, fair value was determined by applying the Company's 40% equity interest in NANTibody to the remaining cash and cash equivalents, which resulted in an impairment of $36.0 million. The impairment resulted in a revised carrying value of the Company's investment in NANTibody

of $3.7 million which approximates its ratable 40% ownership of the cash maintained by NANTibody expected to be used for future research and development.

NANTibody recorded net loss of $0.7 million, $1.1 million and $0.6 million for the twelve months ended September 30, 2018, 2017 and 2016, respectively. The Company recorded its portion of loss from NANTibody in (loss) income on equity investments on its consolidated statements of operations for the twelve months ended December 31, 2018 and 2017. As of September 30, 2018, NANTibody had $9.7 million in current assets, $0.8 million in current liabilities, and no noncurrent assets or noncurrent liabilities. As of September 30, 2017, NANTibody had $9.9 million in current assets and $0.6 million in current liabilities and no noncurrent assets or noncurrent liabilities.

NantStem

In July 2015, the Company and NantBioScience, a subsidiary of NantWorks, established a new entity called NantCancerStemCell, LLC ("NantStem") as a stand-alone biotechnology company with $100.0 million initial joint funding. As initially organized, NantBioScience was obligated to make a $60.0 million cash contribution to NantStem for a 60% equity interest in NantStem, and the Company was obligated to make a $40.0 million cash contribution to NantStem for a 40% equity interest in NantStem. Fifty percent of these contributions were funded in July 2015 and the remaining amounts were to be made by no later than September 30, 2015. The Company had NantPharma contribute its portion of the initial joint funding of $20.0 million to NantStem from the proceeds of the sale of IgDraSol. Pursuant to a Side Letter dated October 13, 2015, the NantStem joint venture agreement was amended to relieve the Company of the obligation to contribute the second $20.0 million payment, and its ownership interest in NantStem was reduced to 20%. NantBioScience's funding obligations were unchanged. The Side Letter was negotiated at the same time the Company issued a call option on shares of NantKwest that it owned to Cambridge, a related party to NantBioScience.

A loss related to other-than-temporary impairment of $0.5 million was recognized for the equity investment in NantStem for the year ended December 31, 2018. There was no loss related to other-than-temporary impairment recognized for the equity investment for the years ended December 31, 2017 or 2016.

The Company is accounting for its interest in NantStem as an equity method investment, due to the significant influence the Company has over the operations of NantStem through its board representation and 20% voting interest. The Company's investment in NantStem is reported in equity method investments on its consolidated balance sheets and its share of NantStem's loss is recorded in loss on equity investments on its consolidated statement of operations. As of December 31, 2018 and 2017, the carrying value of the Company's investment in NantStem was approximately $18.0 million and $18.7 million, respectively.

The financial statements of NantStem are not received sufficiently timely for the Company to record its portion of earnings or loss in the current financial statements and therefore the Company reports its portion of earnings or loss on a quarter lag.

NantStem recorded a net loss of $0.7 million for the twelve months ended September 30, 2018 and net income of $0.7 million and $0.9 million for the years ended 2017 and 2016, respectively. The Company recorded its portion of gain from NantStem in gain on equity investments on its consolidated statements of operations for the twelve months ended December 31, 2018 and 2017. As of September 30, 2018, NantStem had $74.1 million in current assets and $0.1 million in current liabilities and $6.9 million noncurrent assets and no noncurrent liabilities. As of September 30, 2017, NantStem had $82.5 million in current assets and no current liabilities and no noncurrent assets or noncurrent liabilities.

Yuhan Agreement

In March 2016, the Company and Yuhan Corporation, a South Korea company ("Yuhan"), entered into an agreement to form a joint venture company called ImmuneOncia Therapeutics, LLC ("ImmuneOncia") to develop and commercialize a number of immune checkpoint antibodies against undisclosed targets for both hematological malignancies and solid tumors. Under the terms of the joint venture agreement, Yuhan contributed an initial investment of $10.0 million to ImmuneOncia, and the Company granted ImmuneOncia an exclusive license to one of its immune checkpoint antibodies for specified countries while retaining the rights for the U.S., European and Japanese markets, as well as global rights for ImmuneOncia to two additional antibodies that will be selected by ImmuneOncia from a group of pre-specified antibodies from the Company's immuno-oncology antibody portfolio. Yuhan owns 51% of ImmuneOncia, while the Company owns 49%.

The Company is accounting for its interest in ImmuneOncia as an equity method investment, due to the significant influence the Company has over the operations of ImmuneOncia through its board representation and 49% voting interest while

not sharing joint control with Yuhan. The Company's investment in ImmuneOncia is reported in equity method investments on its consolidated balance sheets and its share of ImmuneOncia's loss is recorded in loss on equity investments on its consolidated statement of operations. As of December 31, 2018 and 2017, the carrying value of the Company's investment in ImmuneOncia was approximately $2.7 million and $6.8 million, respectively. The difference between the Company's investment in ImmuneOncia and the Company's 49% interest in the net assets of ImmuneOncia was approximately $0.8 million at December 31, 2018.

ImmuneOncia recorded net loss of $8.4 million for the twelve months ended December 31, 2018. The Company recorded its portion (49% equity interest) of loss from ImmuneOncia in loss on equity investments on its consolidated statement of operations for the twelve months ended December 31, 2018. As of December 31, 2018, ImmuneOncia had $0.8 million in current assets, $1.1 million in current liabilities, $7.5 million in noncurrent assets, and $87 thousand in noncurrent liabilities. As of December 31, 2018, no material activity had occurred subsequent to the Company's initial investment.

ImmuneOncia recorded net loss of $5.4 million for the twelve months ended December 31, 2017. The Company recorded its portion (49% equity interest) of loss from ImmuneOncia in loss on equity investments on its consolidated statement of operations for the twelve months ended December 31, 2017. As of December 31, 2017, ImmuneOncia had $7.4 million in current assets, $129 thousand in current liabilities, $8.8 million in noncurrent assets, and $33 thousand noncurrent liabilities.

In April 2016, Yuhan purchased $10.0 million of shares of Common Stock, and warrants as part of the Company's private placement offering. As of December 31, 2016, no material activity had occurred subsequent to the Company's initial investment.

Shanghai Three

On March 7, 2016, TNK agreed to issue to SiniWest Holdings, Inc. ("SiniWest Holdings") $4.0 million in shares of TNK Class A Stock, subject to certain circumstances, to be issued upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $10.0 million and a $1.0 million upfront cash payment in exchange for SiniWest Holdings transferring certain assets to TNK, including SiniWest Holdings' 25% interest in Shanghai Three-Alliance Biotech Co. LTD, a China based company ("Shanghai Three"). The Company is accounting for its interest in Shanghai Three as an equity method investment, due to the significant influence the Company has over the operations of Shanghai Three through its 25% voting interest. The Company's investment in Shanghai Three is reported in equity method investments on the consolidated balance sheets and its share of Shanghai Three's income or loss is recorded in income (loss) on equity investments on the consolidated statement of operations. As of each of the years ended December 31, 2018 and 2017, the carrying value of the Company's investment in Shanghai Three was approximately $3.8 million.

The financial statements of Shanghai Three are not received sufficiently timely for the Company to record its portion of earnings or loss in the current financial statements and therefore the Company reports its portion of earnings or loss on a quarter lag.

Shanghai Three incurred no operating expenses for the twelve months ended September 30, 2018 and 2017. As of September 30, 2018, Shanghai Three had approximately $0.3 million in current assets, $5.1 million in noncurrent assets, $2.6 million in current liabilities, and $2.0 million in noncurrent liabilities. As of December 31, 2017, Shanghai Three had approximately $0.4 million in current assets, $5.3 million in noncurrent assets, $2.8 million in current liabilities, and $2.0 million in noncurrent liabilities.

Fair Value of Equity Method Investment

The Company periodically evaluates the carrying value of the Company's equity method investments, when events and circumstances indicate that the carrying amount of an asset may not be recovered. The Company determines the fair value of its equity method investments to evaluate whether impairment losses shall be recorded using Level 3 inputs. These investments include the Company's holdings in privately held biotechnology companies that are not exchange traded and therefore not supported with observable market prices. However, these investments are valued by reference to their net asset values that can be market supported and unobservable inputs including future cash flows if available.

10. Goodwill and Intangible Assets

The Company had goodwill of $38.3 million for each of years ended December 31, 2018 and 2017. The Company performed a qualitative test for goodwill impairment as of December 31, 2018. Based upon the results of the qualitative testing

the Company concluded that it is more-likely-than-not that the fair values of the Company's goodwill was in excess of its carrying value and therefore performing the first step of the two-step impairment test was unnecessary. No goodwill impairment was recognized for the years ended December 31, 2018, 2017 and 2016.

The Company's intangible assets, excluding goodwill, include acquired license and patent rights, core technologies, customer relationships and acquired in-process research and development. Amortization for the intangible assets that have finite useful lives is generally recorded on a straight-line basis over their useful lives. A summary of the Company's identifiable intangible assets as of December 31, 2018 and 2017 is as follows (in thousands):

	December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Intangibles, net
Customer relationships	$ 1,585	$ 1,373	$ 212
Acquired technology	3,410	885	2,525
Acquired in-process research and development	35,834	366	35,468
Patent rights	32,720	4,742	27,978
Assembled workforce	105	5	100
Total intangible assets	$ 73,654	$ 7,371	$ 66,283

	December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Intangibles, net
Customer relationships	$ 1,585	$ 1,091	$ 494
Acquired technology	3,410	709	2,701
Acquired in-process research and development	37,660	—	37,660
Patent rights	32,720	2,562	30,158
Total intangible assets	$ 75,375	$ 4,362	$ 71,013

As of December 31, 2018, the remaining weighted average life for identifiable intangible assets is 15 years.

Patent rights are stated at cost and amortized on a straight-line basis over the estimated useful lives of the assets, determined to be approximately fifteen years or nineteen years from the date of transfer of the rights to the Company. Amortization expense for the years ended December 31, 2018, 2017 and 2016 was $2.2 million, $2.1 million and $0.4 million.

Acquired technology is stated at cost and amortized on a straight-line basis over the estimated useful lives of the assets, determined to be approximately nineteen years from the date of acquisition of the technology in December 2013. Amortization expense for the each of the years ended December 31, 2018, 2017 and 2016 was $0.2 million.

Customer relationships are stated at cost and amortized on a straight-line basis over the estimated useful lives of the assets and are generally determined to be approximately five years from the date of acquisition. Amortization expense for each of the years ended December 31, 2018, 2017 and 2016 was $0.3 million.

Acquired in-process research and development is stated at cost and may be immediately expensed if there is no alternative future use. The Company commenced amortization of acquired in-process research and development related to the business combination of Scilex upon commercialization of ZTlido® (lidocaine topical system 1.8%) in October 2018. Amortization expense for the year ended December 31, 2018 was $0.4 million and is being amortized on a straight-line basis over the estimated useful life of approximately fifteen years. The Company intends to begin amortization of acquired in-process research and development costs associated with the Virttu business combination upon commercialization of products. The acquired in-process research and development is reviewed annually for impairment or more frequently as changes in circumstance or the occurrence of events suggest that the remaining value may not be recoverable. The Company recorded an impairment charge of $1.8 million associated with Virttu IPR&D for the quarter ended December 31, 2018.

Estimated future amortization expense related to intangible assets at December 31, 2018 is as follows (in thousands):

Years Ending December 31,	Amount
2019	$ 3,866
2020	3,866
2021	4,920
2022	4,920
2023	4,915
Thereafter	43,796
Total	$ 66,283

11. Significant Agreements and Contracts

License Agreement with Mabtech Limited

In August 2015, the Company entered into an exclusive licensing agreement to develop and commercialize multiple prespecified biosimilar and biobetter antibodies from Mabtech Limited. Under the terms of the agreement, the Company will develop and market four mAbs for the North American, European and Japanese markets. The Company made an initial license payment of $10.0 million and in February 2016, paid an additional $10.0 million license payment, both of which were recognized as acquired in-process research and development expense in the consolidated statements of operations as the Company determined there was no alternative future use for the license.

In June 2016, the Company agreed to accelerate and pay a $30.0 million milestone license payment which has been recognized as acquired in-process research and development expense in the consolidated statements of operations, in exchange for the purchase by Mabtech Limited in June 2016, of $10.0 million of common stock and warrants.

In December 2017, the Company agreed to accelerate and, as a result, paid a $25.0 million milestone license payment, which has been recognized as acquired in-process research and development expense in the consolidated statements of operations. The amended agreement includes additional milestone payments totaling $125.0 million payable following the completion of the technology transfer from Mabtech Limited and for payables to extend the license agreement. The Company is not obligated to extend the license agreement. Accordingly, the additional future milestone payments have not yet been accrued as of December 31, 2018.

Immunotherapy Research Collaboration Agreement with Roger Williams Medical Center

In April 2016, the Company entered into an immunotherapy research collaboration agreement with Roger Williams Medical Center to provide certain clinical trial, research and manufacturing services. Under the terms of the agreement, Roger Williams Medical Center will perform pre-clinical and clinical research related to the development and delivery of CAR-T immunotherapies. In exchange, the Company granted Roger Williams Medical Center $6.0 million in shares of TNK Class A Stock, subject to adjustment in certain circumstances, to be issued upon a financing resulting in gross proceeds (individually or in the aggregate) to TNK of at least $20.0 million. The Company determined the fair value of this obligation was $3.4 million as of the April 2016 agreement effective date, and the amount was recognized as prepaid expense and other and acquisition consideration payable in the consolidated balance sheet. The Company will recognize the upfront payment over the expected performance period of five years. During the twelve months ended December 31, 2018, 2017 and 2016 the Company recognized approximately $0.4 million, $0.7 million and $0.5 million in pre-clinical research and development expense pursuant to the agreement, respectively.

License Agreement with NantCell

In April 2015, the Company and NantCell entered into a license agreement. Under the terms of the agreement the Company granted an exclusive license to NantCell covering patent rights, know-how, and materials related to certain antibodies, ADCs and two CAR-TNK products. NantCell agreed to pay a royalty not to exceed five percent (5%) to the Company on any net sales of products (as defined) from the assets licensed by the Company to NantCell. In addition to the future royalties payable under this agreement, NantCell paid an upfront payment of $10.0 million to the Company and issued 10 million shares of NantCell common stock to the Company valued at $100.0 million based on a recent equity sale of NantCell common stock to a third party. As of December 31, 2018, the Company had not yet provided all of the items noted in the agreement, including research services for and on behalf of NantCell, and therefore has recorded the entire upfront payment and value of the equity interest received as deferred revenue. Specifically, only a portion of the materials associated with the

licensed assets have been delivered while the majority of the licensed assets remain undelivered and the related research activities are still to be performed. The Company will recognize the upfront payment and the value of the equity interest received over the period beginning with the commencement of the last item delivered. The Company's ownership interest in NantCell does not provide the Company with control or the ability to exercise significant influence; therefore the $100.0 million investment is carried at cost in the consolidated balance sheets and evaluated for other-than-temporary impairment on a quarterly basis.

NIH Grants

In June 2014, the NIAID awarded the Company a Phase II Small Business Technology Transfer ("STTR") grant (the "Staph Grant III Award") to support the advanced preclinical development of human bispecific antibody therapeutics to prevent and treat *Staphylococcus aureus* ("*S. aureus*" or "Staph") infections, including methicillin-resistant *S. aureus* ("MRSA"). The project period for the Staph Grant III Award covered a two-year period which commenced in June 2014, which was subsequently extended by one year, with total funds available of approximately $1.0 million per year for up to two years. The Staph Grant III Award was not extended beyond June 30, 2017 and the remaining amounts for the award have been recorded as of December 31, 2017. The Company recorded $0 and $0.2 million of revenue associated with the Staph Grant III Award during the twelve months ended December 31, 2018 and 2017, respectively.

The Company recorded $0.4 million of revenue associated with other grants during the twelve months ended December 31, 2018.

12. Loan and Security Agreement and Convertible Notes

Loan and Security Agreement with Hercules Capital, Inc.

On November 23, 2016, the Company and certain of its domestic subsidiaries (together with the Company, the "Borrowers") entered into a Loan and Security Agreement (the "Hercules Loan Agreement") with Hercules Capital, Inc. ("Hercules"), as a lender and agent for several banks and other financial institutions or entities from time to time party to the Hercules Loan Agreement for a term loan of up to $75.0 million, subject to funding in multiple tranches (the "Term Loan"). The Term Loan would have matured on December 1, 2020. The proceeds of the Term Loan were used for general corporate purposes and coincided with the repayment of the outstanding debt financing arrangement with Oxford Finance LLC and Silicon Valley Bank.

The first tranche of $50.0 million was funded upon execution of the Hercules Loan Agreement on November 23, 2016. Pursuant to the terms of the third amendment to the Hercules Loan Agreement entered into on March 15, 2017, the Company paid Hercules $1.5 million for a portion of the backend fee. Pursuant to the terms of the fourth amendment to the Hercules Loan Agreement entered into on March 23, 2017 (the "Fourth Amendment"), the Company repaid Hercules, without repayment penalty, $20.0 million of the outstanding principal and unpaid interest accrued thereon on March 23, 2017. The Fourth Amendment also provided for the following: (1) Hercules reduced the minimum amount of unrestricted cash that the Company must maintain under the Hercules Loan Agreement, and (2) the parties agreed to change the date by which the Company must achieve a fundraising milestone.

Pursuant to the terms of the seventh amendment to the Hercules Loan Agreement entered into on November 6, 2017 (the "Seventh Amendment"), (i) the Company repaid Hercules, without repayment penalty, $10.0 million of the outstanding principal and unpaid interest accrued thereon on November 6, 2017, and (ii) Hercules agreed to reduce the minimum amount of unrestricted cash that the Company must maintain under the Hercules Loan Agreement from $20.0 million to $8.0 million.

On December 21, 2017, the Company paid off all obligations owing under, and terminated, the Hercules Loan Agreement. The secured interests under the Hercules Loan Agreement were terminated in connection with the Company's discharge of indebtedness thereunder.

In connection with the Hercules Loan Agreement, the Company issued Hercules a warrant, dated November 23, 2016 (the "Hercules Warrant"), to purchase up to 460,123 shares of Common Stock, at an initial exercise price of $4.89, subject to adjustment as provided in the Hercules Warrant. The Hercules Warrant is initially exercisable for 306,748 shares of common stock of the Company, and may automatically become exercisable for additional shares of common stock on such dates (if any) based upon the funding amounts of Tranche II or Tranche III of the Term Loan that may be extended to the Borrowers. The Hercules Warrant will terminate, if not earlier exercised, on the earlier of November 23, 2023 and the closing of certain merger or other transactions in which the consideration is cash, stock of a publicly-traded acquirer or a combination thereof.

In connection with the extinguishment of the Hercules Loan Agreement on December 21, 2017, a loss of $4.3 million on the extinguishment of debt was recorded representing the difference between the reacquisition price of debt and the net carrying amount of the loan as of December 21, 2017.

2018 Chinese Yuan ("RMB") Loan

In March 2018, the Company entered into a term loan in the aggregate principal amount of $1.6 million ("RMB10.0 million") with the Bank of China and the Agricultural Bank of China, which is guaranteed by Levena Suzhou Biopharma, Co. Ltd. This one year bank facility was used for working capital purposes. The proceeds from the loan agreement are reflected as financing activities in the consolidated statements of cash flows for the twelve months ended December 31, 2018. The outstanding balance is repayable from February 2018 to March 2019. The interest rate on this loan is 5%.

2016 Private Investment in Public Entity Financing

On April 3, 2016, the Company entered into a Securities Purchase Agreement (the "ABG Purchase Agreement") with ABG SRNE Limited and Ally Bridge LB Healthcare Master Fund Limited (collectively, "Ally Bridge"), pursuant to which, among other things, the Company agreed to issue and sell to Ally Bridge and other purchasers that may be designated by Ally Bridge (collectively, the "ABG Purchasers"), in a private placement transaction (the "ABG Private Placement"), up to $50.0 million in shares of the Common Stock and warrants to purchase shares of Common Stock. Upon the closing of the ABG Private Placement, the Company issued to the ABG Purchasers (1) an aggregate of 9,009,005 shares (the "ABG Shares") of Common Stock, and (2) warrants to purchase an aggregate of 2,702,700 shares of Common Stock (each, an "ABG Warrant"). Each ABG Warrant had an exercise price of $8.50 per share, was immediately exercisable upon issuance, had a term of three years and was exercisable on a cash or cashless exercise basis.

Under the terms of the ABG Purchase Agreement, the Company was obligated to prepare and file with the SEC, within 30 days of the closing date of the ABG Private Placement, a registration statement to register for resale the ABG Shares and the shares of Common Stock issuable upon exercise of each ABG Warrant (the "ABG Warrant Shares"), and may be required to effect certain registrations to register for resale the ABG Shares and the ABG Warrant Shares in connection with certain "piggy-back" registration rights granted to the ABG Purchasers.

On April 3, 2016, the Company also entered into a Securities Purchase Agreement (collectively, the "Additional Purchase Agreements") with each of Beijing Shijilongxin Investment Co., Ltd. ("Beijing Shijilongxin"), FREJOY Investment Management Co., Ltd. ("Frejoy") and Yuhan Corporation ("Yuhan"), pursuant to which, among other things, the Company agreed to issue and sell, in separate private placement transactions: (1) to Beijing Shijilongxin, 8,108,108 shares of Common Stock, and a warrant to purchase 1,176,471 shares of Common Stock, for an aggregate purchase price of $45.0 million; (2) to Frejoy, 8,108,108 shares of Common Stock, and a warrant to purchase 1,176,471 shares of Common Stock, for an aggregate purchase price of $45.0 million; and (3) to Yuhan, 1,801,802 shares of Common Stock, and a warrant to purchase 235,294 shares of Common Stock, for an aggregate purchase price of $10.0 million. The warrants to be issued pursuant to each of the Additional Purchase Agreements (collectively, the "Additional Warrants" and, together with each ABG Warrant, the "Warrants") had an exercise price of $8.50 per share, were immediately exercisable upon issuance, had a term of three years and were exercisable on a cash or cashless exercise basis.

Under the terms of the Additional Purchase Agreements, each of Beijing Shijilongxin, Frejoy and Yuhan had the right to demand, at any time beginning six months after the closing of the transactions contemplated by the applicable Additional Purchase Agreement, that the Company prepare and file with the SEC a registration statement to register for resale such investor's shares of Common Stock purchased pursuant to the applicable Additional Purchase Agreement and the shares of Common Stock issuable upon exercise of such investor's Additional Warrant. In addition, the Company may be required to effect certain registrations to register for resale such shares in connection with certain "piggy-back" registration rights granted to Beijing Shijilongxin, Frejoy and Yuhan.

On May 2, 2016, the Company closed its private placement of common stock and warrants with Yuhan for gross proceeds of $10.0 million. Yuhan purchased 1,801,802 shares of common stock at $5.55 per share and a warrant to purchase 235,294 shares of common stock. The warrant was exercisable for three years at an exercise price of $8.50 per share.

Between May 31, 2016 and June 7, 2016, the Company closed on the remainder of the $150.0 million financing with the ABG Purchasers, Beijing Shijilongxin, and Frejoy. The ABG Purchasers led the financing and, together with Beijing Shijilongxin and Frejoy, collectively purchased 25,225,221 shares of common stock at $5.55 per share, and warrants to purchase 5,055,642 shares of common stock for total cash consideration of $86.5 million and secured promissory notes (the "2016 Notes") in an aggregate principal amount of $53.5 million.

On December 31, 2016, the Company entered into Warrant and Note Cancellation and Share Forfeiture Agreements (the "Cancellation and Forfeiture Agreements") with certain investors (the "Investors") that held an aggregate of 7,838,259 shares of Common Stock and certain of the Warrants granting the right to purchase an aggregate of 1,137,316 shares of Common Stock. Pursuant to the Cancellation and Forfeiture Agreements, effective December 31, 2016, the Warrants held by the Investors and the 2016 Notes, of which $43.5 million was then outstanding, were cancelled and the shares of Common Stock held by the Investors were forfeited and returned to the Company.

2017 Securities Purchase Agreement in Private Placement

On December 11, 2017, the Company entered into a Securities Purchase Agreement (the "December 2017 Securities Purchase Agreement") with certain accredited investors (collectively, the "December 2017 Purchasers"). Pursuant to the December 2017 Securities Purchase Agreement, on December 21, 2017, the Company issued and sold to the December 2017 Purchasers, in a private placement transaction, (1) convertible promissory notes in an aggregate principal amount of $50,000,000 (the "December 2017 Notes"), which will accrue simple interest at a rate equal to 5.0% per annum and mature upon the earlier to occur of (a) December 21, 2022, and (b) the date of the closing of a change in control (the "December 2017 Maturity Date"), and (2) warrants (the "December 2017 Warrants") to purchase an aggregate of 12,121,210 shares of its common stock.

At any time and from time to time before the December 2017 Warrant Maturity Date, each December 2017 Purchaser had the option to convert any portion of the outstanding principal amount of such December 2017 Purchaser's December 2017 Note that was equal to or greater than the lesser of: (1) $4,000,000, and (2) the then-outstanding principal amount of such December 2017 Purchaser's December 2017 Note into shares of common stock at a price per share of $2.26875, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions. Accrued but unpaid interest on the December 2017 Notes was to be paid in cash semi-annually in arrears on or prior to the 30th day of June and 31st day of December of each calendar year commencing with the year ending December 31, 2018.

Each December 2017 Warrant has an exercise price of $2.61 per share, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, became exercisable on June 20, 2018, has a term of five and a half years and is exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the December 2017 Warrants, in which case the December 2017 Warrants shall also be exercisable on a cashless exercise basis.

The fair value of the Notes was estimated using a valuation model with Level 2 inputs including the stock price volatility, risk-free interest rate, and debt yield. As of December 31, 2017, the estimated fair value of the Notes was approximately $89.5 million, compared to the carrying value of $5.2 million.

On May 17, 2018, the December 2017 Purchasers converted in full the outstanding principal and accrued interest under the December 2017 Notes into 22,038,565 shares of the Company's common stock, and the Company paid to the December 2017 Purchasers cash in an aggregate amount of $1.0 million in accrued but unpaid interest. The unamortized discount remaining at the date of conversion of $44.3 million was recognized immediately at that date as interest expense.

See Note 3 for discussion of the Company's policies for accounting for debt with detachable warrants. In connection with the issuance of the December 2017 Notes and December 2017 Warrants, the Company recorded a debt discount of approximately $44.8 million based on an allocation of proceeds to the December 2017 Warrants of approximately $12.7 million and a beneficial conversion feature of approximately $32.1 million, before issuance costs.

Borrowings under the December 2017 Notes consisted of the following (in thousands):

Principal amount	$	50,000
Debt discount - warrant		(12,669)
Debt discount - beneficial conversion feature		(32,062)
Capitalized debt issuance costs		(84)
Accretion of debt issuance costs and other		—
Accretion of debt discount		26
Balance at December 31, 2017	$	5,211

2018 Securities Purchase Agreement in Private Placement and Amendment to Warrants

On March 26, 2018, the Company entered into a Securities Purchase Agreement (the "March 2018 Securities Purchase Agreement") with certain accredited investors (the "March 2018 Purchasers"). Pursuant the March 2018 Securities Purchase Agreement, the Company agreed to issue and sell to the March 2018 Purchasers, in a Private Placement (the "March 2018 Private Placement"), (1) convertible promissory notes in an aggregate principal amount of $120,500,000 (the "Notes"), and (2) warrants to purchase 8,591,794 shares of the common stock of the Company (the "Warrants"). On June 13, 2018, the Company entered into an amendment (the "June 2018 Amendment") to the March 2018 Securities Purchase Agreement. Under the terms of the June 2018 Amendment, the Company and the March 2018 Purchasers agreed that the aggregate principal amount of the Notes was reduced to $37,848,750 and that the aggregate number of shares of Common Stock issuable upon exercise of the Warrants was reduced to 2,698,662, and also agreed to certain other adjustments to the threshold principal amount of the Notes required to remain outstanding in order for certain rights and obligations to apply to the Notes.

On June 13, 2018, pursuant to the March 2018 Securities Purchase Agreement, as amended by the June 2018 Amendment, the Company issued and sold to the March 2018 Purchasers, in the March 2018 Private Placement (1) Notes in an aggregate principal amount of $37,848,750, and (2) Warrants to purchase an aggregate of 2,698,662 shares of Common Stock. The Notes accrue interest at a rate equal to 5.0% per annum and mature upon the earlier to occur of June 13, 2023 and the date of the closing of a change of control (the "Maturity Date"). At any time and from time to time before the Maturity Date, each March 2018 Purchaser shall have the option to convert any portion of the outstanding principal amount of such March 2018 Purchaser's Note that is equal to or greater than the lesser of: (1) $4,000,000, and (2) the then-outstanding principal amount of such March 2018 Purchaser's Note into shares of common stock at a price per share of $7.0125, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions. Accrued but unpaid interest on the Notes shall be paid in cash semi-annually in arrears on or prior to the 30th day of June and 31st day of December of each calendar year commencing with December 31, 2018. Each Warrant has an exercise price of $3.28 per share, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, became exercisable on December 11, 2018, has a term of five and a half years from the date of issuance and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Warrants, in which case the Warrants shall also be exercisable on a cashless exercise basis. See Note 3 for discussion of the Company's policies for accounting for debt with detachable warrants. In connection with the issuance of the Notes and the Warrants, the Company recorded a debt discount of approximately $21.6 million based on an allocation of proceeds to the Warrants of approximately $9.6 million and a beneficial conversion feature of approximately $12.0 million, before issuance costs. The Company accounts for the debt at amortized cost and amortizes the debt discount to interest expense using the effective interest method over the expected term of the Notes. The fair value of the Notes was estimated using a lattice model with Level 3 inputs including the historical stock price volatility, risk-free interest rate, and debt yield.

On November 7, 2018, the Company entered into an Agreement and Consent (the "Agreement and Consent") with the March 2018 Purchasers. Pursuant to the Agreement and Consent, in consideration for certain of the March 2018 Purchasers, in their capacity as holders of the Notes, providing a waiver and consent on behalf of all holders of the Notes, pursuant to which the March 2018 Purchasers provided the Company with certain waivers of their rights and certain of the Company's covenants under the Securities Purchase Agreement, as amended by Amendment No. 1 thereto, with respect to the Loan Agreement (as defined below) and the transactions contemplated thereby, the Company and the March 2018 Purchasers agreed to amend the Warrants to reduce the exercise price per share of its common stock thereunder from $8.77 to $3.28. The amendment of the Warrants resulted in a loss on debt extinguishment of $1.9 million representing the incremental fair value of the modified Warrants along with the difference between the fair value and carrying value of the Notes at the modification date of November 7, 2018.

The Company determined that the amendment of the Warrants resulted in an extinguishment at the modification date. As a result, the Company recorded a loss on debt extinguishment for the difference between the fair value of $23.1 million and the carrying value of $17.0 million, or $6.1 million. The Company recorded the loss as of the date of modification, or November 7, 2018. As of December 31, 2018, the estimated fair value of the Notes was approximately $15.8 million, compared to the carrying value of $23.6 million.

Borrowings under the Notes consisted of the following (in thousands):

Face value of loan	$	37,849
Unamortized debt discount		(14,804)
Accretion of debt discount		515
Balance at December 31, 2018	$	23,560

Interest expense recognized on the Notes for the year ended December 31, 2018 totaled $1.0 million for the stated interest. Debt discount and debt issuance costs, which are presented as a direct reduction of the Notes in the consolidated balance sheets, are amortized as interest expense using the effective interest method. The amount of debt discount and debt issuance costs included in interest expense for the year ended December 31, 2018 was approximately $0.5 million.

2018 Purchase Agreements and Indenture for Scilex

On September 7, 2018, Scilex entered into Purchase Agreements (the "2018 Purchase Agreements") with certain investors (collectively, the "Scilex Note Purchasers") and the Company. Pursuant to the 2018 Purchase Agreements, on September 7, 2018, Scilex, among other things, issued and sold to the Scilex Note Purchasers senior secured notes due 2026 in an aggregate principal amount of $224,000,000 (the "Scilex Notes") for an aggregate purchase price of $140,000,000 (the "Offering"). In connection with the Offering, Scilex also entered into the Indenture governing the Scilex Notes with the Trustee and Collateral Agent, and the Company. Pursuant to the Indenture, the Company agreed to the Guarantee.

The net proceeds of the Offering were approximately $89.3 million, after deducting the Offering expenses payable by Scilex and funding the Reserve Account and the Collateral Account pursuant to the terms of the Indenture. The net proceeds of the Offering will be used by Scilex to support the commercialization of ZTlido® (lidocaine topical system 1.8%), for working capital and general corporate purposes in respect of the commercialization of ZTlido® (lidocaine topical system 1.8%). Funds in the Reserve Account will be released to Scilex upon receipt by the Trustee of an officer’s certificate under the Indenture from Scilex confirming receipt of the Marketing Approval Letter on or prior to July 1, 2023. Funds in the Collateral Account will be released upon receipt of a written consent authorizing such release from the holders of a majority in principal amount of the Scilex Notes issued, upon the occurrence and during the continuance of an event of default at the direction of the holders of a majority in principal amount of the Scilex Notes issued or upon the repayment in full of all amounts owed under the Scilex Notes.

The holders of the Scilex Notes will be entitled to receive quarterly payments of principal of the Scilex Notes equal to a percentage, in the range of 10% to 20% of the net sales of ZTlido® (lidocaine topical system 1.8%) for the prior fiscal quarter, beginning on February 15, 2019. If Scilex has not received the Marketing Approval Letter by March 31, 2021, the percentage of net sales payable shall be increased to be in the range of 15% to 25%. If actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from October 1, 2022 through September 30, 2023 are less than 60% of a predetermined target sales threshold for such period, then Scilex will be obligated to pay an additional installment of principal of the Scilex Notes each quarter in an amount equal to an amount to be determined by reference to the amount of such deficiency.

The aggregate principal amount due under the Scilex Notes shall be increased by $28,000,000 on February 15, 2022 if actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from the issue date of the Scilex Notes through December 31, 2021 do not equal or exceed 95% of a predetermined target sales threshold for such period. If actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) for the period from October 1, 2022 through September 30, 2023 do not equal or exceed 80% of a predetermined target sales threshold for such period, the aggregate principal amount shall also be increased on November 15, 2023 by an amount equal to an amount to be determined by reference to the amount of such deficiency.

The final maturity date of the Scilex Notes will be August 15, 2026. The Scilex Notes may be redeemed in whole at any time upon 30 days’ written notice at Scilex’s option prior to August 15, 2026 at a redemption price equal to 100% of the then-outstanding principal amount of the Scilex Notes. In addition, upon a change of control of Scilex (as defined in the Indenture), each holder of a Scilex Note shall have the right to require Scilex to repurchase all or any part of such holder’s Scilex Note at a repurchase price in cash equal to 101% of the then-outstanding principal amount thereof.

The 2018 Purchase Agreements include the terms and conditions of the offer and sale of the Scilex Notes, representations and warranties of the parties, indemnification and contribution obligations and other terms and conditions customary in agreements of this type.

The Indenture governing the Scilex Notes contains customary events of default with respect to the Scilex Notes (including a failure to make any payment of principal on the Scilex Notes when due and payable), and, upon certain events of default occurring and continuing, the Trustee by notice to Scilex, or the holders of at least 25% in principal amount of the outstanding Scilex Notes by notice to Scilex and the Trustee, may (subject to the provisions of the Indenture) declare 100% of the then-outstanding principal amount of the Scilex Notes to be due and payable. Upon such a declaration of acceleration, such principal will be due and payable immediately. In the case of certain events, including bankruptcy, insolvency or reorganization involving the Company or Scilex, the Scilex Notes will automatically become due and payable.

Pursuant to the Indenture, the Company and Scilex must also comply with certain covenants with respect to the commercialization of ZTlido® (lidocaine topical system 1.8%), as well as customary additional affirmative covenants, such as furnishing financial statements to the holders of the Scilex Notes, minimum cash requirements and net sales reports; and negative covenants, including limitations on the following: the incurrence of debt; the payment of dividends, the repurchase of shares and under certain conditions making certain other restricted payments; the prepayment, redemption or repurchase of subordinated debt; a merger, amalgamation or consolidation involving Scilex; engaging in certain transactions with affiliates; and the making of investments other than those permitted by the Indenture.

The Scilex Notes and related Guarantee have not been, and will not be, registered under the Securities Act of 1933, as amended, or the securities laws of any other jurisdiction and may not be offered or sold in the United States without registration or an applicable exemption from registration requirements. The holders of the Scilex Notes do not have any registration rights.
Pursuant to a Collateral Agreement by and among Scilex, the Trustee and the Collateral Agent (the “Collateral Agreement”), the Scilex Notes will be secured by ZTlido® (lidocaine topical system 1.8%) and all of the existing and future property and assets of Scilex necessary for, or otherwise relevant to, now or in the future, the manufacture and sale of ZTlido® (lidocaine topical system 1.8%), on a worldwide basis (exclusive of Japan), including, but not limited to, the intellectual property related to ZTlido® (lidocaine topical system 1.8%), the marketing or similar regulatory approvals related to ZTlido® (lidocaine topical system 1.8%), any licenses, agreements and other contracts related to ZTlido® (lidocaine topical system 1.8%), and the current assets related to ZTlido® (lidocaine topical system 1.8%) such as inventory, accounts receivable and cash and any and all future iterations, improvements or modifications of such product made, developed or licensed (or sub-licensed) by Scilex or any of its affiliates or licensees (or sub-licensees) (including ZTlido® (lidocaine topical system 5.4%)).

Pursuant to the terms of the Indenture, the Company issued an irrevocable standby letter of credit to Scilex (the “Letter of Credit”), which provides that, in the event that (1) Scilex does not hold at least $35,000,000 in unrestricted cash as of the end of any calendar month during the term of the Scilex Notes, (2) actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) from the issue date of the Scilex Notes through December 31, 2021 are less than a specified sales threshold for such period, or (3) actual cumulative net sales of ZTlido® (lidocaine topical system 1.8%) for any calendar year during the term of the Scilex Notes, beginning with the 2022 calendar year, are less than a specified sales threshold for such calendar year, Scilex, as beneficiary of the Letter of Credit, will draw, and the Company will pay to Scilex, $35,000,000 in a single lump-sum amount as a subordinated loan. The Letter of Credit will terminate upon the earliest to occur of: (a) the repayment of the Scilex Notes in full, (b) the actual net sales of ZTlido® (lidocaine topical system 1.8%) for any calendar year during the term of the Scilex Notes exceeding a certain threshold, (c) the consummation of an initial public offering on a major international stock exchange by Scilex that satisfies certain valuation thresholds, and (d) the replacement of the Letter of Credit with another letter of credit in form and substance, including as to the identity and creditworthiness of issuer, reasonably acceptable to the holders of at least 80% in principal amount of outstanding Scilex Notes. The Company performed a level 3 based assessment for certain of these contingent features related to the Letter of Credit, which, included significant judgment and assumptions related to the likelihood of the aforementioned terms being achieved. Based on its assessment, it was concluded that the estimated fair value of these embedded features were not material as of December 31, 2018. As of December 31, 2018, the estimated fair value of the Notes was approximately $122.8 million compared to the carrying value of $141.1 million. The Company uses the discounted cash flow method under the income approach, which involves significant level 3 inputs and assumptions, combined with a Monte Carlo simulation, as appropriate. The value of the debt instrument is based on the present value of future interest and principal payments, discounted a rate of return reflective the Company's credit risk.

Borrowings of the Notes consisted of the following (in thousands):

Face value of loan	$	224,000
Unamortized debt discount		(84,000)
Capitalized debt issuance costs		(5,748)
Accretion of debt discount		6,376
Accretion of debt issuance cost		435
Balance at December 31, 2018	$	141,063

Future minimum payments under the Notes, based on a percentage of projected net sales of ZTlido® (lidocaine topical system 1.8%) are as follows (in thousands):

Year Ending December 31,		
2019	$	8,696
2020		30,010
2021		52,474
2022		99,153
2023		33,667
Total future minimum payments		224,000
Unamortized debt discount		(77,624)
Unamortized capitalized debt issuance costs		(5,313)
Total minimum payment		141,063
Current portion		(8,696)
Long-term portion of Scilex Notes	$	132,367

Debt discount and debt issuance costs, which are presented as a direct reduction of the Scilex Notes in the consolidated balance sheets, are amortized as interest expense using the effective interest method. As principal repayments on the Scilex Notes are based on a percentage of net sales of ZTlido® (lidocaine topical system 1.8% and lidocaine topical system 5.4%, if a Marketing Approval Letter is received), the Company has elected to account for changes in estimated cash flows from future net sales prospectively. Specifically, a new effective interest rate will be determined based on revised estimates of remaining cash flows and changes in expected cash flows will be recognized prospectively. The amount of debt discount and debt issuance costs included in interest expense for the fiscal year ended December 31, 2018 was approximately $6.8 million.

The Company identified a number of embedded derivatives that require bifurcation from the Scilex Notes and separate accounting as a single compound derivative. However, as the current fair value attributed to the bifurcated compound derivative is immaterial, The Company has not recorded this derivative within its consolidated financial statements. The Company re-evaluates this assessment each reporting period.

2018 Oaktree Term Loan Agreement

On November 7, 2018, the Company and certain of its domestic subsidiaries (the “Guarantors”) entered into a Term Loan Agreement (the “Loan Agreement”) with certain funds and accounts managed by Oaktree Capital Management, L.P. (collectively, the “Lenders”) and Oaktree Fund Administration, LLC, as administrative and collateral agent, for an initial term loan of $100.0 million (the “Initial Loan”) and a second tranche of $50.0 million, subject to the achievement of certain commercial and financial milestones between August 7, 2019 and November 7, 2019, and the satisfaction of certain customary conditions (the “Conditional Loan”). The Initial Loan matures on November 7, 2023 (the “Maturity Date”) and bears interest at a rate equal to the London Interbank Offered Rate ("LIBOR") plus the applicable margin, or 7%. The Initial Loan was funded on November 7, 2018. The net proceeds of the Initial Loan were approximately $91.3 million, after deducting estimated loan costs, commissions, fees and expenses, and will be used for general corporate purposes. In connection with the Loan Agreement, on November 7, 2018, the Company issued to the Lenders warrants to purchase 6,288,985 shares of the Company’s common stock (the “Initial Warrants”). The Initial Warrants have an exercise price per share of $3.28, subject to adjustment for stock splits, reverse stock splits, stock dividends and similar transactions, will be exercisable from May 7, 2019 through May 7, 2029 and will be exercisable on a cash basis, unless there is not an effective registration statement covering the resale of the shares issuable upon exercise of the Initial Warrants (the “Initial Warrant Shares”), in which case the Initial Warrants shall also be exercisable on a cashless exercise basis. In connection with the Loan Agreement, on November 7, 2018, the Company and

the Lenders entered into a Registration Rights Agreement (the "Registration Rights Agreement") pursuant to which, among other things, the Company agreed to file one or more registration statements with the Securities and Exchange Commission (the "SEC") for the purpose of registering for resale the Initial Warrant Shares and the shares of common stock issuable upon exercise of warrants that may be issued in connection with the Conditional Loan (the "Conditional Warrants"). Under the Registration Rights Agreement, the Company agreed to file a registration statement with the SEC registering all of the Initial Warrant Shares and the shares of common stock issuable upon exercise of the Conditional Warrants for resale by no later than the 45th day following the issuance of the Initial Warrants and the Conditional Warrants, respectively.

As of December 31, 2018, the estimated fair value of the Initial Loan was approximately $64.0 million compared to the carrying value of $67.2 million.

Borrowings under the Initial Loan consisted of the following (in thousands):

Face value of loan	$	100,000
Debt discount - warrant		(26,659)
Capitalized debt issuance costs		(6,658)
Accretion of debt discount and issuance costs		526
Balance at December 31, 2018	$	67,209

Interest expense recognized on the Initial Loan for the year ended December 31, 2018 totaled $1.4 million for the stated interest. Debt discount and debt issuance costs, which are presented as a direct reduction of the Loan Agreement in the consolidated balance sheets, are amortized as interest expense using the effective interest method. The amount of debt discount and debt issuance costs included in interest expense for the year ended December 31, 2018 was approximately $0.5 million.

The Company performed a level 3 based assessment and identified a number of embedded derivatives that require bifurcation from the Initial Loan and separate accounting as a single compound derivative. Certain of these embedded features include default interest due to non-credit-related events of default, mandatory prepayment upon a change of control, mandatory prepayment upon an asset disposition, mandatory prepayment upon non-permitted debt issuance, indemnified taxes, increased costs upon a change in law and automatic acceleration upon a non-bankruptcy event of default. As the current fair value attributed to the bifurcated compound derivative is immaterial, the Company has not recorded this derivative within its consolidated financial statements. The Company will re-evaluate this assessment each reporting period.

2018 Short-term Bridge Loan

On September 10, 2018, the Company entered into a Short-term Bridge Loan Agreement ("Bridge Loan) in which the Company received proceeds of approximately $19.6 million, net of approximately $0.3 million of commitment fees to facilitate the timing of a cash payment. Interest on the Bridge Loan was 8.5 percent annually and the maturity date is November 12, 2018. The Bridge Loan was paid in full as of December 31, 2018.

13. Stockholders' Equity

2009 Non-Employee Director Grants

In September 2009, prior to the adoption of the 2009 Stock Incentive Plan (the "2009 Plan"), the Company's board of directors approved the reservation and issuance of 8,000 nonstatutory stock options to the Company's non-employee directors. The outstanding options vested on the one year anniversary of the vesting commencement date in October 2010, and are exercisable for up to 10 years from the grant date. No further shares may be granted under this plan and, as of December 31, 2018, 3,200 options with a weighted-average exercise price of $1.12 were outstanding.

2009 Stock Incentive Plan

In October 2009, the Company's stockholders approved the 2009 Stock Incentive Plan. In August 2018, the Company's stockholders approved, among other items, the amendment and restatement of the 2009 Stock Incentive Plan (as amended and restated, the "Stock Plan") to increase the number of shares of the Company's common stock authorized to be issued pursuant to the Stock Plan to 18,860,000. Such shares of the Company's common stock are reserved for issuance to employees, non-employee directors and consultants of the Company. The Stock Plan provides for the grant of incentive stock options, non-incentive stock options, stock appreciation rights, restricted stock awards, unrestricted stock awards, restricted stock unit awards and performance awards to eligible recipients. Recipients of stock options shall be eligible to purchase shares of the

Company's common stock at an exercise price equal to no less than the estimated fair market value of such stock on the date of grant. The maximum term of options granted under the Stock Plan is ten years. Employee option grants generally vest 25% on the first anniversary of the original vesting commencement date, with the balance vesting monthly over the remaining three years. The vesting schedules for grants to non-employee directors and consultants will be determined by the Company's Compensation Committee. Stock options are generally not exercisable prior to the applicable vesting date, unless otherwise accelerated under the terms of the applicable stock plan agreement.

The following table summarizes stock option activity as of December 31, 2018, 2017 and 2016, and the changes for the years then ended (in thousands, except for share amounts):

	Options Outstanding	Weighted-Average Exercise Price	Aggregate Intrinsic Value
Outstanding at December 31, 2017	6,343,400	$ 4.74	$ 6,290
Options Granted	4,737,800	$ 5.23	
Options Canceled	(500,435)	$ 5.84	
Options Exercised	(57,690)	$ 3.69	
Outstanding at December 31, 2018	10,523,075	$ 4.91	$ 1,723

The aggregate intrinsic value of options exercised during the years ended December 31, 2018, 2017 and 2016 were $133 thousand, $0 thousand and $194 thousand, respectively. The Company uses the Black-Scholes valuation model to calculate the fair value of stock options. The fair value of employee stock options was estimated at the grant date using the following assumptions:

	Years Ended December 31,		
	2018	2017	2016
Weighted-average grant date fair value	$ 3.65	$ 1.28	$ 5.86
Dividend yield	—	—	—
Volatility	81%	81%	75%
Risk-free interest rate	2.87%	1.92%	1.49%
Expected life of options	6.1 years	6.1 years	6.1 years

The assumed dividend yield was based on the Company's expectation of not paying dividends in the foreseeable future. Due to the Company's limited historical data, the estimated volatility incorporates the historical and implied volatility of comparable companies whose share prices are publicly available. The risk-free interest rate assumption was based on the U.S. Treasury's rates for U.S. Treasury zero-coupon bonds with maturities similar to those of the expected term of the award being valued. The weighted average expected life of options was estimated using the average of the contractual term and the weighted average vesting term of the options.

The total employee and director stock-based compensation recorded as operating expenses was $5,139 thousand, $4,423 thousand and $4,354 thousand for the years ended December 31, 2018, 2017 and 2016, respectively.

The total unrecognized compensation cost related to unvested employee and director stock option grants as of December 31, 2018 was $16,857 thousand and the weighted average period over which these grants are expected to vest is 3.0 years.

The Company records equity instruments issued to non-employees as expense at their fair value over the related service period as determined in accordance with the authoritative guidance and periodically revalues the equity instruments as they vest. Stock-based compensation expense related to non-employee consultants recorded as operating expenses was $1,055 thousand, $228 thousand, and $198 thousand for the years ended December 31, 2018, 2017 and 2016, respectively.

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance consists of the following at December 31, 2018:

Common stock warrants outstanding under the loan and security agreement	6,354,877
Common stock warrants outstanding under the Hercules securities agreement	306,748
Common stock warrants outstanding under the convertible notes	14,819,872
Common stock warrants outstanding under private placements	4,153,620
Common stock options outstanding under the Non-Employee Director Plan	3,200
Authorized for future grant or issuance under the 2009 Stock Incentive Plan	18,324,406
Shares issuable upon the conversion of the 2018 Notes	5,397,325
Issuable under assignment agreement based upon achievement of certain milestones	80,000
	49,440,048

2017 Stock Option Plan

In June 2017, the Company's subsidiary, Scilex, adopted the Scilex 2017 Stock Option Plan, reserved 4.0 million shares of Scilex common stock and awarded 1.0 million options to certain Company personnel, directors and consultants under such plan. Stock options granted under this plan typically vest 1/4th of the shares on the first anniversary of the vesting commencement date and 1/48th of the remaining options vest each month thereafter. As of December 31, 2018, 1.6 million shares were canceled. As of December 31, 2018, 0.7 million options were outstanding.

2015 Stock Option Plans

In May 2015, the Company's subsidiary, TNK, adopted the TNK 2015 Stock Option Plan and reserved 10.0 million shares of TNK class A common stock and awarded 3.6 million options to certain Company personnel, directors and consultants under such plan. In November 2015, TNK awarded 0.5 million options to certain Company personnel. Stock options granted under this plan typically vest a portion immediately upon grant and the remaining options over two to four years or monthly over four years from the grant date and have a contractual term of ten years. As of December 31, 2018, 2.1 million shares were canceled. As of December 31, 2018, 0.9 million options were outstanding.

In May 2015, TNK granted a warrant to the Company's CEO to purchase 9.5 million shares of TNK class B common stock which have 10 to 1 voting rights. Warrant shares totaling 4.0 million are exercisable evenly over forty months and the remaining warrant shares are exercisable if certain defined events occur within four years from date of issuance at an initial exercise price of $0.01 per share. This warrant was canceled in its entirety effective August 29, 2017.

In May 2015, the Company's subsidiary, LA Cell, adopted the LA Cell 2015 Stock Option Plan and reserved 10.0 million shares of LA Cell class A common stock and awarded 2.9 million options to certain Company personnel, directors and consultants under such plan. Stock options granted under this plan typically vest a portion immediately upon grant and the remaining options over two to four years or monthly over four years from the grant date and have a contractual term of ten years. As of December 31, 2018, 1.7 million shares were canceled. As of December 31, 2018, 0.3 million options were outstanding.

In May 2015, LA Cell granted a warrant to the Company's CEO to purchase 9.5 million shares of LA Cell class B common stock which have 10 to 1 voting rights. Warrant shares totaling 4.0 million are exercisable evenly over forty months and the remaining warrant shares are exercisable if certain defined events occur within four years from date of issuance at an initial exercise price of $0.01 per share. This warrant was canceled in its entirety effective August 29, 2017.

In October 2015, the Company's subsidiary, Concortis Biosystems, Corp., ("CBC"), adopted the CBC 2015 Stock Option Plan and reserved 10.0 million shares of CBC class A common stock and awarded 1.8 million options to certain Company personnel, directors and consultants under such plan. Stock options granted under this plan typically vest a portion immediately upon grant and the remaining options over two to four years or monthly over four years from the grant date and have a contractual term of ten years. As of December 31, 2018, 1.7 million shares were canceled. As of December 31, 2018, no options were outstanding.

In October 2015, CBC granted a warrant to the Company's CEO to purchase 9.5 million shares of CBC class B common stock which have 10 to 1 voting rights. Warrant shares totaling 4.0 million are exercisable evenly over forty months and the remaining warrant shares are exercisable if certain defined events occur within four years from date of issuance at an initial exercise price of $0.25 per share. This warrant was canceled in its entirety effective August 29, 2017.

In October 2015, the Company's subsidiary, Scintilla, adopted the Scintilla 2015 Stock Option Plan and reserved 10.0 million shares of Scintilla class A common stock and awarded 2.1 million options to certain Company personnel, directors and consultants under such plan. Stock options granted under this plan typically vest a portion immediately upon grant and the remaining options over two to four years or monthly over four years from the grant date and have a contractual term of ten years. As of December 31, 2018, 0.9 million shares were canceled. As of December 31, 2018, no options were outstanding.

In October 2015, Scintilla granted a warrant to the Company's CEO to purchase 9.5 million shares of Scintilla class B common stock which have 10 to 1 voting rights. Warrant shares totaling 4.0 million are exercisable evenly over forty months and the remaining warrant shares are exercisable if certain defined events occur within four years from date of issuance at an initial exercise price of $0.01 per share. This warrant was canceled in its entirety effective August 29, 2017.

In October 2015, the Company's subsidiary, Sorrento Biologics, Inc. ("Biologics"), adopted the Biologics 2015 Stock Option Plan and reserved 10.0 million shares of Biologics class A common stock and awarded 2.6 million options to certain Company personnel, directors and consultants under such plan. Stock options granted under this plan typically vest a portion immediately upon grant and the remaining options over two to four years or monthly over four years from the grant date and have a contractual term of ten years. As of December 31, 2018, 1.4 million shares were canceled. As of December 31, 2018, no options were outstanding.

In October 2015, Biologics granted a warrant to the Company's CEO to purchase 9.5 million shares of Biologics class B common stock which have 10 to 1 voting rights. Warrant shares totaling 4.0 million are exercisable evenly over forty months and the remaining warrant shares are exercisable if certain defined events occur within four years from date of issuance at an initial exercise price of $0.01 per share. This warrant was canceled in its entirety effective August 29, 2017.

On August 29, 2017, the options and warrants were canceled in accordance with the terms of a settlement agreement and, as a result, unrecognized compensation expense of $281 thousand associated with these previously issued shares was accelerated and recognized upon cancellation.

The total director stock-based compensation recorded as operating expenses by the Company for TNK, LA Cell, CBC, Scintilla and Biologics for the year ended December 31, 2017 and 2016 was $0 and $166 thousand, respectively. Total unrecognized stock-based compensation expense related to unvested director stock option and warrant grants for these entities as of December 31, 2017 was $0, and the weighted-average period over which these grants are expected to vest is approximately 3.5 years. The Company records equity instruments issued to non-employees as expense at their fair value over the related service period as determined in accordance with the authoritative guidance and periodically revalues the equity instruments as they vest. Stock based compensation expense related to non-employee consultants recorded as operating expenses by the Company for TNK, LA Cell, CBC, Scintilla and Biologics for the year ended December 31, 2018 and 2017 was $655 thousand and $156 thousand, respectively.

The weighted-average assumptions used in the Black-Scholes option and warrant pricing model used by TNK, LA Cell, CBC, Scintilla and Biologics to determine the fair value of stock option grants for directors and non-employee consultants were as follows: expected dividend yield – 0%, risk-free interest rate – 1.39% to 2.24%, expected volatility – 76% to 77%, and expected term of 4.0 to 6.1 years.

2014 Stock Option Plan

In May 2014, the Company's subsidiary, Ark Animal Health, Inc. ("Ark"), adopted the Ark 2014 Stock Option Plan and reserved and awarded 600,000 options to certain directors and consultants under such plan. Stock options granted under such plan typically vest a portion immediately upon grant and the remaining options over one year from the grant date and have a contractual term of ten years. Effective August 29, 2017, options to purchase an aggregate of 135,000 shares were canceled. As of December 31, 2018, 88,000 options were outstanding.

There were no operating expenses recorded for total director and consultant stock-based compensation by the Company for Ark for each of the years ended December 31, 2018 and 2017. No unrecognized stock-based compensation expense remains related to stock option grants as of December 31, 2018.

14. Derivative Liability

On October 13, 2015, the Company wrote a call option to Cambridge, on up to 2.0 million shares of NantKwest common stock held by the Company (the "Option Agreement"). As of December 31, 2015, the Company held approximately

5.6 million shares of common stock of NantKwest, par value $0.0001 per share, which was classified as available-for-sale and reported in its consolidated financial statements as marketable securities. The Option Agreement gave Cambridge the right to purchase up to 2.0 million shares at a price of $15.295 per share from time to time in the first quarter of 2016. There was no contractual option premium associated with this Option Agreement. The Option Agreement was a derivative as defined in ASC Topic 815 and was recognized at fair value every reporting period the Option Agreement is in effect, with changes in fair value recognized in current operations. For the year ended December 31, 2015, the Company recorded a loss of $3.4 million on the derivative liability.

The call option expired unexercised on March 31, 2016 and the Company recorded a gain of $5.5 million upon the cancellation of the derivative liability.

As of December 31, 2018, no derivative liability was recorded on the Company's consolidated balance sheets.

15. Commitments and Contingencies

Litigation

In the normal course of business, the Company may be named as a defendant in one or more lawsuits. The Company is not a party to any outstanding material litigation and management is currently not aware of any legal proceedings that, individually or in the aggregate, are deemed to be material to the Company's financial condition or results of operations.

Immunomedics Litigation

On June 26, 2015, Immunomedics, Inc. ("Immunomedics") filed a complaint in the United States District Court for the District of New Jersey (the "New Jersey Case") against the Board of Directors of RWMC, Dr. Richard P. Junghans, Dr. Steven C. Katz, the Office of the Board of Advisors of Tufts University School of Medicine, and one or more individuals or entities to be identified later. This complaint (the "Initial Complaint") alleged, among other things: (1) breach of contract; (2) breach of covenant of good faith and fair dealing; (3) tortious interference with prospective economic gain; (4) tortious interference with contracts; (5) misappropriation; (6) conversion; (7) bailment; (8) negligence; (9) vicarious liability; and (10) patent infringement. Overall, the allegations in the Initial Complaint were generally directed to an alleged material transfer agreement dated December 2008 and Immunomedics' alleged request for the return of certain alleged research material, as well as the alleged improper use and conversion of such research materials outside the scope of the material transfer agreement.

On October 22, 2015, Immunomedics filed an amended complaint (the "First Amended Complaint"), which, among other things, no longer named the Board of Directors of RWMC and The Office of the Board of Advisors of Tufts University School of Medicine as defendants. RWMC and Tufts Medical Center were added as new defendants. On January 14, 2016, Immunomedics filed a second amended complaint (the "Second Amended Complaint"), which, among other things, no longer named Tufts Medical Center as a defendant. In addition, the Second Amended Complaint contained allegations directed to two additional alleged material transfer agreements dated September 1993 and May 2010, respectively, and also added an allegation of unjust enrichment. The Second Amended Complaint also no longer asserted claims for (1) breach of covenant of good faith and fair dealing; (2) misappropriation; (3) bailment; (4) negligence; and (5) vicarious liability.

On October 12, 2016, Immunomedics filed a third amended complaint (the "Third Amended Complaint"), which added the Company, TNK, BDL and CARgenix as defendants. TNK is a subsidiary of the Company and purchased BDL and CARgenix in August 2015. The Third Amended Complaint included, among other things, allegations against the Company, TNK, BDL and CARgenix regarding (1) conversion; (2) tortious interference; and (3) unjust enrichment. On December 2, 2016, the Company, TNK, BDL, and CARgenix filed a motion to dismiss Immunomedics' complaint against them for lack of personal jurisdiction. On January 25, 2017, the District of New Jersey granted this motion, and the Company, TNK, BDL and CARgenix were dismissed as defendants from the New Jersey Case. Under various agreements, TNK has certain indemnification obligations to RWMC, Dr. Richard P. Junghans and Dr. Steven C. Katz that may be implicated by the New Jersey Case.

On April 27, 2018, Immunomedics filed a Complaint against the Company and TNK in San Diego Superior Court, Case No. 37-2018-00021006-CU-NP-CTL (the "San Diego Case"). The Complaint includes, among other things, allegations against the Company and TNK regarding (1) conversion; (2) tortious interference; and (3) inducing breach of contract.

On October 25, 2018, the parties to the New Jersey Case and the San Diego Case entered into a Mutual General Release and Settlement Agreement resolving both matters. Pursuant to the terms of the settlement, among other things, both the New

Jersey Case and San Diego Case were dismissed with prejudice upon payment by Sorrento to Immunomedics of $2.35 million, which payment was timely made as called for by the agreement.

Cantor Fitzgerald & Co. Litigation

On May 25, 2018, Cantor Fitzgerald & Co. ("CF&Co.") filed a Complaint against the Company in the Supreme Court of the State of New York, County of New York, Index No. 652633/2018. The Complaint included, among other things, allegations against the Company for breach of contract arising out of a letter agreement whereby CF&Co. was to supply certain services to the Company in exchange for a fee (the "CF & Co. Litigation"). The Company filed an Answer and Counterclaim for breach of contract against CF&Co claiming that CF&Co. did not perform under the letter agreement.

Following a mediation held on December 19, 2018, the parties entered into a settlement agreement resolving the matter. Pursuant to the terms of the agreement, the litigation was dismissed with prejudice upon payment by Sorrento to CF&Co. of $1 million, which payment was timely made as called for by the agreement.

Operating Leases

The Company currently has leases in San Diego, California of approximately 130,584 square feet of corporate office and laboratory space, approximately 1,405 square feet of laboratory and office space at a second location as well as approximately 36,400 square feet for offices and cGMP fill and finish and storage space. In November 2018, the Company entered into a new lease in San Diego, California for approximately 61,200 square feet of additional corporate office and laboratory space. Operations for the new lease are expected to begin in the first quarter of 2019 and the lease expires in October 2029. In December 2018, the Company entered into a new lease in Broomfield, Colorado, for approximately 4,500 square feet of additional office space, which is expected to commence in the second quarter of 2019 and expires in 2024.

The Company's lease agreements in San Diego, as amended, for its corporate office and laboratory space expire in October 2029. Its second laboratory and office space and its cGMP fill and finish and storage space expire in September 2020 and November 2022, respectively. The Company also leases 25,381 square feet of office and laboratory space in Suzhou, China, which lease expires in June 30, 2021. The Company leases 2,312 square feet of office, laboratory, and storage space in Scotland, which lease expires in March 2021. The Company subleases in New York, New York for approximately 4,550 square feet of additional corporate office space. The sublease began in July of 2017 and expires in December 2020. The Company leases approximately 3,432 square feet of office and laboratory space in Atlanta, Georgia which began in October of 2018 and expires in September 2024.

Minimum future non-cancelable annual operating lease obligations are as follows for the years ending December 31 (in thousands):

2019	$	6,396
2020		8,733
2021		8,011
2022		7,959
2023		8,186
Thereafter		52,425
	$	91,710

Rent expense for operating leases totaled approximately $6.1 million, $3.2 million and $2.1 million, for the years ended December 31, 2018, December 31, 2017 and December 31, 2016, respectively.

16. Income Taxes

The components of the provision expense (benefit) were as follows for the years ended December 31, 2018, 2017 and 2016 (in thousands):

	2018	2017	2016
Current:			
Federal	$ (178)	$ (366)	$ (1,785)
State	23	14	(600)
Foreign	(44)	30	—
	(199)	(322)	(2,385)
Deferred:			
Federal	(3,499)	(33,178)	3,554
State	(2,421)	(2,538)	(2,065)
Foreign	(155)	—	—
	(6,075)	(35,716)	1,489
Totals	$ (6,274)	$ (36,038)	$ (896)

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

The components of the Company's net deferred tax liabilities and related valuation allowance are as follows as of December 31, 2018 and 2017 (in thousands):

	2018	2017
Deferred tax assets:		
Amortization of intangibles	$ 27,075	$ 21,862
Deferred revenue	25,448	34,754
Tax credit carryforwards	13,720	10,160
Net operating loss carryforwards	43,542	21,172
Stock based compensation	1,786	1,743
Accrued expenses and other	14,037	1,877
Total deferred tax assets	125,608	91,568
Less valuation allowance	(74,970)	(43,405)
Total deferred tax assets	50,638	48,163
Deferred tax liabilities:		
Amortization of intangibles	(12,739)	(15,225)
Depreciation	(543)	(757)
Investment in common stock	(46,772)	(47,716)
Total deferred tax liabilities	(60,054)	(63,698)
Net deferred tax assets / liabilities	$ (9,416)	$ (15,535)

The reconciliation between U.S. federal income taxes at the statutory rate and the Company's provision for income taxes are as follows for the years ended December 31 (in thousands):

	2018	2017
Income tax expense (benefit) at federal statutory rate	$ (46,011)	$ (8,725)
State, net of federal tax benefit	(3,075)	(834)
Other permanent differences	2,814	1,290
Debt discount	11,357	—
Incentive stock compensation	1,001	1,025
Transaction costs	102	408
Other	123	715
Return to provision adjustment	(8)	(42)
Acquired in-process research and development	677	71
Change in Federal rate	—	10,006
Change in State rate	(453)	810
Research tax credits	(4,664)	(4,051)
Uncertain tax positions	879	1,027
Prior year true-ups and carrybacks	(889)	(1,095)
Stock compensation true-up	308	1,788
Change in valuation allowance	31,565	(38,431)
Income tax provision	$ (6,274)	$ (36,038)

The Company has evaluated the available evidence supporting the realization of its gross deferred tax assets, including the amount and timing of future taxable income, and has determined that it is more likely than not that the deferred tax assets will not be realized. Due to such uncertainties surrounding the realization of the domestic deferred tax assets, the Company maintains a valuation allowance of $75.0 million against its deferred tax assets as of December 31, 2018. Realization of the deferred tax assets will be primarily dependent upon the Company's ability to generate sufficient taxable income prior to the expiration of its net operating losses.

As of December 31, 2018, the Company had net operating loss carryforwards of approximately $169.7 million and $77.1 million for federal and state income tax purposes, respectively. These may be used to offset future taxable income and will begin to expire in varying amounts in 2029 to 2038, except for a portion of the federal net operating loss that have an indefinite carryforward period. The Company also has research and development and orphan drug credits of approximately $12.2 million and $6.1 million for federal and state income taxes purposes, respectively. The federal credits may be used to offset future tax and will begin to expire in varying amounts in 2029 to 2038. The state credits may be used to offset future tax, such credits carryforward indefinitely.

Internal Revenue Code Section 382 rules apply to limit a corporation's ability to utilize existing net operating loss and tax credit carryforwards once the corporation experiences an ownership change as defined in Section 382. The Company has undergone an ownership change in a prior year. For the year ended December 31, 2018, there was no impact of such limitations on the income tax provision. Due to the existence of the valuation allowance, it is not expected that any possible limitation will have an impact on the results of operations or financial position of the Company.

The Company is subject to taxation in the U.S., various state tax jurisdictions and various foreign tax jurisdictions. The Company's tax years starting in December 31, 2007 through December 31, 2018 are open and subject to examination by the U.S. and state taxing authorities due to the carryforward of utilized net operating losses and research and development credits.

During 2018 the Company was notified by the Franchise Tax Board that its California income tax return for the 2015 and 2016 calendar year was selected for examination. The Company has responded to information requested.

The Company adopted the provisions of ASC Topic 740 regarding uncertain tax positions on January 1, 2009. Under ASC Topic 740, the impact of an uncertain income tax position taken on a tax return must be recognized at the largest amount that is cumulatively "more likely than not" to be sustained upon audit by relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained.

A reconciliation of the beginning and ending amount of unrecognized tax expense (benefits) is as follows (in thousands):

	Amount
Unrecognized tax benefits balance at December 31, 2017	$ 3,883
Increase related to current year tax positions	916
Increase related to prior year tax positions	150
Decrease related to prior year tax positions	(597)
Unrecognized tax benefits balance at December 31, 2018	$ 4,352

The Company's policy is to recognize interest and penalties related to income tax matters in income tax expense. No interest has been recognized as of and for the period ended December 31, 2018.

The Company believes that no material amount of the liabilities for uncertain tax positions will expire within 12 months of December 31, 2018.

U.S. Tax Reform

On December 22, 2017, the U.S. government enacted comprehensive tax legislation referred to as the Tax Cuts and Jobs Act (the "Tax Act''), which significantly revises the Internal Revenue Code of 1986, as amended. The Tax Act contains, among other things, significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21% for tax years beginning after December 31, 2017, limitations on the deduction for net operating losses to 80% of current year taxable income, indefinite carryover period for net operating losses and limitations on the deductibility of interest to 30% of adjusted taxable income.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118"), which allowed the Company to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. As of December 22, 2018, the Company's accounting for the Tax Act was complete and there were no material changes to the provisional amounts previously recorded.

17. Related Party Agreements and Other

During the year ended December 31, 2015, the Company entered into a joint venture called Immunotherapy NANTibody, LLC, with NantCell, a subsidiary of NantWorks. In July 2015, the Company contributed its portion of the initial joint funding of $40.0 million to the NANTibody joint venture. The Company and NantCell have also entered into a license agreement pursuant to which the Company received a $10.0 million upfront license payment and $100.0 million of vested NantCell common stock.

During the year ended December 31, 2015, the Company entered into a joint venture called NantCancerStemCell, LLC, with NantBioScience, a wholly-owned subsidiary of NantWorks. In connection with negotiated changes to the structure of NantStem the Company issued a call option on shares of NantKwest that it owned to Cambridge, a related party to the Company and to NantBioScience. In April 2015, the Company purchased 1.0 million shares of NantBioScience common stock for $10.0 million.

In March 2016, the Company and Yuhan entered into an agreement to form a joint venture company called ImmuneOncia Therapeutics, LLC, to develop and commercialize a number of immune checkpoint antibodies against undisclosed targets for both hematological malignancies and solid tumors. As of December 31, 2018, the carrying value of the Company's investment in ImmuneOncia Therapeutics, LLC was approximately $2.7 million. During the three months ended June 30, 2016, Yuhan purchased $10.0 million of Common Stock and warrants.

On August 15, 2017, the transactions contemplated by that certain Contribution Agreement, dated June 12, 2017, by and among the Company, TNK and Celularity Inc. ("Celularity"), pursuant to which, among other things, the Company and TNK agreed to contribute certain intellectual property rights related to their proprietary chimeric antigen receptor constructs and related CARs to Celularity in exchange for shares of Celularity's Series A Preferred Stock equal to 25% of Celularity's outstanding shares of capital stock, calculated on a fully-diluted basis closed. Dr. Henry Ji, the Company's Chairman of the Board, President and Chief Executive Officer, Jaisim Shah, a member of the Company's Board of Directors and David Deming, a member of the Company's Board of Directors, were previously appointed as members of the board of directors of Celularity.

On November 8, 2016, the Company entered into the Scilex Purchase Agreement, pursuant to which the Company acquired from the Scilex Stockholders approximately 72% of the outstanding capital stock of Scilex. Dr. Henry Ji, the Company's President and Chief Executive Officer and a member of the Company's Board of Directors, and George K. Ng, the Company's Vice President, Chief Administrative Officer and Chief Legal Officer, were stockholders of Scilex prior to the acquisition transaction.

The remainder of the outstanding capital stock of Scilex represents a noncontrolling interest of which approximately 19.3% continues to be held by ITOCHU CHEMICAL FRONTIER Corporation following the Scilex acquisition. Scilex has entered into a product development agreement with ITOCHU CHEMICAL FRONTIER Corporation which serves as the sole manufacturer and supplier to Scilex for the ZTlido® product.

18. 401(k) Plan

The Company maintains a defined contribution 401(k) plan available to eligible employees. Employee contributions are voluntary and are determined on an individual basis, limited to the maximum amount allowable under federal tax regulations. The Company made matching contributions to the 401(k) plan totaling $898 thousand, $658 thousand and $424 thousand, for the years ended December 31, 2018, 2017 and 2016, respectively.

19. Quarterly Financial Data (Unaudited)

The following table sets forth selected quarterly data for the years presented, in thousands, except per share data.

2018	Quarter Ended December 31,	Quarter Ended September 30,	Quarter Ended June 30,	Quarter Ended March 31,	Year Ended December 31,
Revenues	$ 6,929	$ 4,105	$ 3,913	$ 6,246	$ 21,193
Operating costs and expenses	$ 48,530	$ 52,012	$ 32,284	$ 38,792	$ 171,618
Net loss attributable to Sorrento	$ (49,774)	$ (47,328)	$ (73,864)	$ (32,574)	$ (203,540)
Net loss per share - basic	$ (0.41)	$ (0.40)	$ (0.73)	$ (0.38)	$ (1.92)
Net loss per share - diluted	$ (0.41)	$ (0.40)	$ (0.73)	$ (0.38)	$ (1.92)
Weighted-average shares - basic	121,552	117,021	100,563	84,941	106,150
Weighted-average shares - diluted	121,552	117,021	100,563	84,941	106,150

2017	Quarter Ended December 31, (1)	Quarter Ended September 30,	Quarter Ended June 30,	Quarter Ended March 31,	Year Ended December 31,
Revenues	$ 20,407	$ 121,910 [1]	$ 4,665	$ 4,874	$ 151,856
Operating costs and expenses	$ 55,205	$ 24,993	$ 18,123	$ 28,200	$ 126,521
Net income (loss) attributable to Sorrento	$ 48,444	$ (2,061)	$ (14,187)	$ (23,064)	$ 9,132
Net income (loss) per share - basic	$ 0.60	$ (0.03)	$ (0.20)	$ (0.45)	$ 0.13
Net income (loss) per share - diluted	$ 0.58	$ (0.03)	$ (0.20)	$ (0.45)	$ 0.13
Weighted-average shares - basic	80,486	76,887	70,302	50,886	69,742
Weighted-average shares - diluted	82,996	76,888	70,302	50,886	70,381

(1) Quarter-over-quarter increase primarily due to revenue recognized from the intangibles transferred to Celularity as a result of closing the Contribution Agreement in 2017.

20. Earnings Per Share

For the years ended December 31, 2018, 2017, and 2016, basic earnings per share of common stock is computed by dividing net income by the weighted average number of shares of common stock outstanding during the period. Diluted earnings per share of common stock is calculated to give effect to all dilutive securities, using the treasury stock method.

The following table sets forth the reconciliation of basic and diluted earnings per share for the years ended December 31, 2018, 2017 and 2016 (in thousands, except per share):

	Years Ended December 31,		
	2018	2017	2016
Net Income (Loss)	$ (203,540)	$ 9,132	$ (60,923)
Net Income Adjusted for Tax-Effected Interest on Convertible Notes	—	(71)	—
Adjusted Net Income	(203,540)	9,061	(60,923)
Denominator for Basic Earnings Per Share	106,150	69,742	50,360
Effect of Dilutive Securities:			
Stock Options	—	8	—
Convertible Notes	—	604	—
Convertible Notes - Warrants	—	27	—
Denominator for Diluted Earnings per Share – Adjusted for Dilutive Securities	106,150	70,381	50,360
Dilutive Earnings Per Share	$ (1.92)	$ 0.13	$ (1.21)

The potentially dilutive stock options that would have been excluded because the effect would have been antidilutive for years ended December 31, 2018, 2017, and 2016 were 10.5 million, 6.3 million, and 4.3 million, respectively. The potentially dilutive warrants that would have been excluded because the effect would have been antidilutive for years ended December 31, 2018, 2017, and 2016 were 25.6 million, 4.7 million, and 7.7 million, respectively. Basic and diluted per share amounts are computed independently in the consolidated statements of income. Therefore, the sum of per share components may not equal the per share amounts presented.

21. Subsequent Events

Scilex Non-binding Term Sheet for ZTlido® in Europe

Scilex Pharmaceuticals Inc. (“Scilex”), a subsidiary of Sorrento Therapeutics, Inc., recently executed a non-binding term sheet for the rights to ZTlido® (lidocaine medicated plaster 1.8%) in certain European countries with a major European pharmaceutical company. After discussions with such potential partner, Scilex also intends to withdraw its Marketing Authorization Application (“MAA”) for ZTlido® for the treatment of pain associated with post-herpetic neuralgia (PHN), and notified the Medicines and Healthcare Products Regulatory Agency in the United Kingdom (the application's Reference Member State) on January 23, 2019 of such intent. Scilex submitted its MAA in November 2017 through a hybrid regulatory pathway via the Decentralized Procedure. Scilex plans to resubmit the MAA in collaboration with such partner in the near future.

SORRENTO THERAPEUTICS, INC.

AMENDED AND RESTATED BYLAWS

ARTICLE I - STOCKHOLDERS

Section 1. Annual Meeting.

(1) If required by applicable law, an annual meeting of the stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at such place or by means of remote communication as the Board of Directors of the Corporation (the "***Board of Directors***") in its sole discretion may determine, on such date, and at such time as the Board of Directors shall each year fix.

(2) Nominations of persons for election to the Board of Directors and the proposal of business to be transacted by the stockholders may be made at an annual meeting of stockholders only (a) pursuant to the Corporation's proxy materials with respect to such meeting, (b) by or at the direction of the Board of Directors, or (c) by any stockholder of record of the Corporation who (1) at the time of the giving of the notice provided for in Section 1(3) of this Article I, was a stockholder of record, (2) at the time of the annual meeting, is a stockholder of record who is entitled to vote at such meeting, and (3) has complied with the procedures set forth in this Section 1 of Article I in all applicable respects (the "***Record Stockholder***"). For the avoidance of doubt, clause (c) shall be the exclusive means for a stockholder to bring nominations of persons for election to the Board of Directors or the foregoing business (other than business included in the Corporation's proxy materials pursuant to Rule 14a-8 under the Securities Exchange Act of 1934, as amended (such act, and the rules and regulations promulgated thereunder, the "***Exchange Act***")), before an annual meeting of stockholders.

(3) For nominations or business to be properly brought before an annual meeting by a Record Stockholder pursuant to clause (c) of Section 1(2) of this Article I, (a) the Record Stockholder must have given timely notice thereof in writing to the Secretary of the Corporation at the Corporation's principal executive offices, and have provided any updates or supplements to such notice at the times and in the forms required by this Section 1 of Article I, (b) any such business must be a proper matter for stockholder action under Delaware law, and (c) the Record Stockholder and the beneficial owner, if any, on whose behalf any such proposal or nomination is made, must have acted in accordance with the representations set forth in the Solicitation Statement required by these Amended and Restated Bylaws. To be timely, a Record Stockholder's notice shall be received by the Secretary of the Corporation at the principal executive offices of the Corporation not less than 45 or more than 75 days prior to the one-year anniversary of the date on which the Corporation first mailed its proxy materials for the immediately preceding year's annual meeting of stockholders; *provided*, *however*, that if the annual meeting is convened more than 30 days before, or delayed by more than 30 days after, the one-year anniversary of the immediately preceding year's annual meeting of stockholders or if no annual meeting was held in the preceding year, notice by the Record Stockholder to be timely must be so received by the Secretary of the Corporation at the principal executive offices not later than the Close of Business on the later of (i) the ninetieth (90th) day before such annual meeting or (ii) the tenth (10th) day following the day on which Public Announcement (as defined in Section 1(8) of this Article I) of the date of such meeting is first made. Notwithstanding anything in the preceding sentence to the contrary, in the event that the number of directors to be elected to the Board of Directors at the annual meeting is increased effective after the time period for which nominations would otherwise be due under the second sentence of this Section 1(3) of this Article I and there is no Public Announcement naming all of the nominees for director or specifying the size of the Board of Directors made by the Corporation at least 10 days before the last day a Record Stockholder may deliver a notice of nomination in accordance with the preceding sentence, a Record Stockholder's notice required by this bylaw shall also be considered timely, but only with respect to nominees for director for any new positions created by such increase, if it shall be received by the Secretary of the Corporation at the principal executive offices of the Corporation not later than the Close of Business on the 10th day following the day on which such Public Announcement is first made by the Corporation. In no event shall an adjournment or postponement of an annual meeting commence a new time period (or extend any time period) for the giving of a Record Stockholder's notice.

(4) If a Solicitation Notice (as defined in Section 1(8) of this Article I) is provided to the Corporation by the Record Stockholder, then in the case of (1) a proposal of business to be considered, the Record Stockholder must have delivered a proxy statement and form of proxy to holders of at least the percentage of the Corporation's voting shares required under applicable law to carry any such proposal, or, (2) a nomination or nominations of persons for election to the Board of Directors, have delivered a proxy statement and form of proxy to holders of a percentage of the Corporation's voting shares reasonably believed by the Record Stockholder to be sufficient to elect the nominee or nominees proposed to be nominated by the Record Stockholder, and (3) must, in either case, have included in such materials a copy of the Solicitation Notice. If the Record Stockholder does not provide a Solicitation Notice to the Corporation, then the Record Stockholder must not have solicited an amount of proxies that would require the delivery of such a Solicitation Notice to the Corporation.

(5) Such Record Stockholder's notice shall set forth, or, where applicable, affirmatively state the absence of:

(a) as to each person whom the Record Stockholder proposes to nominate for election or re-election as a director:

(i) the name, age, business address and residence address of such person;

(ii) the class, series and number of any shares of stock of the Corporation that are beneficially owned or owned of record by such person or any Associated Person (as defined in Section 1(8) of this Article I);

(iii) the date or dates such shares were acquired and the investment intent of such acquisition;

(iv) all other information relating to such person that would be required to be disclosed in solicitations of proxies for election of directors in an election contest (even if an election contest is not involved), or would be otherwise required, in each case pursuant to Regulation 14A (or any successor provision) under the Exchange Act and the rules thereunder (including such person's written consent to being named in the proxy statement as a nominee, to the public disclosure of information regarding or related to such person provided to the Corporation by such person or otherwise pursuant to this Section 1 of this Article I and to serving as a director if elected); and

(v) whether such person meets the independence requirements of The Nasdaq Stock Market LLC or any other stock exchange upon which the Corporation's common stock is primarily traded.

(b) as to each item of business that the Record Stockholder proposes to bring before the meeting:

(i) a brief description of the business desired to be brought before the meeting;

(ii) the text of the proposal or business, including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Amended and Restated Bylaws, the language of the proposed amendment;

(iii) the reasons for conducting such business at the meeting;

(iv) any material interest in such business of each Proposing Person (as defined in Section 1(8) of this Article I), individually or in the aggregate, including any anticipated benefit to any Proposing Person therefrom;

(v) a reasonably detailed description of all agreements, arrangements and understandings (A) between or among any of the Proposing Persons, or (B) between

or among any Proposing Person and any other record or beneficial holders or persons who have the right to acquire beneficial ownership at any time in the future of the shares of any class or series of the Corporation or any other person or entity (including their names) in connection with the proposal of such business by such Record Stockholder; and

(vi) any other information relating to such item of business that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies in support of the business to be brought before the meeting pursuant to Section 14(a) of the Exchange Act; *provided*, *however*, that the disclosures required by this Section 1(5)(b)(vi) of this Article I shall not include any disclosures about any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Amended and Restated Bylaws on behalf of a beneficial owner.

(c) as to each Proposing Person:

(i) the current name and address of such Proposing Person, including, if applicable, their name and address as they appear on the Corporation's stock ledger, if different;

(ii) the class, series and number of shares of stock of the Corporation that are directly or indirectly owned of record or beneficially owned by such Proposing Person, including any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future;

(iii) the nominee holder for, and the number of, shares of stock of the Corporation, by class and series, that are owned beneficially but not of record by such Proposing Person;

(iv) whether and the extent to which any derivative interest in the Corporation's equity securities (including without limitation any option, warrant, convertible security, stock appreciation right or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of the Corporation or with a value derived in whole or in part from the value of any class or series of shares of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of shares of the Corporation or otherwise, and any cash-settled equity swap, total return swap, synthetic equity position or similar derivative arrangement, as well as any rights to dividends on the shares of any class or series of shares of the Corporation that are separated or separable from the underlying shares of the Corporation) or any short interest in any security of the Corporation (for purposes of the foregoing, a person shall be deemed to have a short interest in a security if such person directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has the opportunity to profit or share in any profit derived from any decrease in the value of the subject security, including through performance-related fees) is held directly or indirectly by or for the benefit of such Proposing Person, including without limitation whether and the extent to which any ongoing hedging or other transaction or series of transactions has been entered into by or on behalf of, or any other agreement, arrangement or understanding (including without limitation any short position or any borrowing or lending of shares) has been made, the effect or intent of which is to mitigate loss to or manage risk or benefit of share price changes for, or to increase or decrease the voting power of, such Proposing

Person with respect to any share of stock of the Corporation (the foregoing subsections (ii), (iii) and (iv), collectively, the "***Securityholdings***");

(v) any material pending or threatened legal proceeding in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation;

(vi) any other material relationship between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand;

(vii) any direct or indirect material interest in any material contract or agreement with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, in any such case, any employment agreement, collective bargaining agreement or consulting agreement);

(viii) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (v) through (viii) are referred to as "***Disclosable Interests***"). For purposes hereof, "***Disclosable Interests***" shall not include any information with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Bylaws on behalf of a beneficial owner;

(ix) such Proposing Person's written consent to the public disclosure of information provided to the Corporation pursuant to this Section 1 of this Article I;

(x) a complete written description of any agreement, arrangement or understanding (including any knowledge that another person or entity is Acting in Concert (as defined in Section 1(8) of this Article I) with such Proposing Person) between or among such Proposing Person, any of its respective affiliates or associates and any other person Acting in Concert with any of the foregoing persons;

(xi) as to each person whom such Proposing Person proposes to nominate for election or re-election as a director, any agreement, arrangement or understanding of such person with any other person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director known to such Proposing Person after reasonable inquiry;

(xii) a representation that such Proposing Person is entitled to vote at such meeting and intends to Appear in Person (as defined in Section 1(8) of this Article I) at the meeting to propose such business or nomination, and including in each case specifying (A) to the extent known by such Proposing Person on the date of such stockholder notice, the name and address of any Aligned Person, (B) to the extent known by such Proposing Person, whether such Proposing Person or any Aligned Person, or any affiliates or associates of the foregoing persons, individually or collectively intends to acquire, directly or indirectly, capital stock representing a majority of the voting power of the capital stock of the Corporation or the power to elect or nominate a majority of the Board of Directors, and (C) whether such

Proposing Person intends to deliver (or cause to be delivered) a Solicitation Notice; and

(xiii) a legally enforceable undertaking to provide the updates required by this clause (5)(c)(xiii) in accordance with its terms. From the date of delivery of the stockholder notice and the closing of the polls at the meeting, such Proposing Person must give written notice to the Secretary of the Corporation at the principal executive offices of the Corporation of any change in the information provided pursuant to this Section 1(5) of this Article I (including, without limitation, any change to the information provided in the completed written questionnaire delivered pursuant to Section 1(5)(d)(i) of this Article I), within two (2) Business Days thereof (each an "***Update***"), *provided* that any such Update shall be delivered by such Proposing Person prior to the closing of the polls at the meeting. Any such Update shall specify, at a minimum, the nature, amount and date of the change, and to the extent known, the counterparty thereto, if any.

(d) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must also provide to the Secretary of the Corporation at the principal executive office of the Corporation in accordance with the timeline prescribed for delivery of these items in instructions given by or on behalf of the Board of Directors:

(i) a completed written questionnaire with respect to the background and qualifications of such proposed nominee and the background of any other person or entity on whose behalf the nomination is being made, which questionnaire shall be provided by the Secretary of the Corporation upon written request;

(ii) a written representation and agreement, in the form provided by the Secretary of the Corporation upon written request, that such proposed nominee:

(A) is not and will not become a party to (1) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "***Voting Commitment***") that has not been disclosed in writing to the Corporation at the time of such nomination, or (2) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law;

(B) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed in writing to the Corporation at the time of nomination; and

(C) in such proposed nominee's individual capacity and on behalf of such Proposing Person on whose behalf the nomination was made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable corporate governance, conflict of interest, confidentiality, insider trading and other policies and guidelines that may be adopted by the Board of Directors, consistent with the proposed nominee's fiduciary duties.

(e) the Board of Directors may also require any proposed nominee for election as a director of the Corporation to furnish such other information as may reasonably be requested by the Board of Directors in writing prior to the meeting of stockholders at which such any proposed nominee's nomination is to be acted upon in order for the Board of Directors to determine the eligibility of such of such proposed nominee to serve as a director of the Corporation, including information relevant to a determination whether such proposed nominee can be considered an independent director.

(f) as to the Record Stockholder giving the stockholder notice, the Record Stockholder must actually Appear in Person at the meeting to propose such business or nomination in order for such business or nomination to be properly considered at the meeting. Notwithstanding the foregoing provisions of this Section 1 of this Article I, unless otherwise required by law, (A) if the Record Stockholder (or a Qualified Representative of the Record Stockholder) (as defined in Section 1(8) of this Article I) does not appear at the meeting of stockholders of the Corporation to present the proposed business, such proposed business may be disregarded or disallowed in the discretion of the chairperson, secretary of the meeting or inspector of elections of the meeting (and if so determined, such proposed business shall not be transacted), notwithstanding that proxies in respect of such vote may have been received by the Corporation, and (B) if the Record Stockholder (or a Qualified Representative of the Record Stockholder) does not appear at the meeting of stockholders of the Corporation to present a nomination, such nomination may be disregarded or disallowed in the discretion of the chairperson, secretary of the meeting or inspector of elections of the meeting, notwithstanding that proxies in respect of such vote may have been received by the Corporation.

(g) Notwithstanding anything in these Amended and Restated Bylaws to the contrary, to the fullest extent permitted by law, any failure by the Proposing Person to provide any Update shall preclude (A) the Proposing Person from voting those Securityholdings at the meeting for which an Update has not been timely provided as required by this subsection, and the chairman, secretary or inspector of elections of the meeting may disallow and disregard any vote cast with respect to any nomination or proposal made by such Proposing Person at such meeting, and (B) any such nominee from being eligible to serve as a director of the Corporation elected at such meeting.

(6) If information submitted pursuant to this Section 1 or Section 2 of this Article I by the Proposing Person is inaccurate to any material extent, such information may be deemed not to have been provided in accordance with this this Section 1 or Section 2 of this Article I, as applicable. Upon written request by the Secretary of the Corporation, the Board of Directors or any committee thereof, to any stockholder or beneficial owner proposing a nominee for election or re-election as a director or any proposal for other business at a meeting of stockholders shall provide, within seven (7) Business Days of delivery of such request (or such other period as may be specified in such request), written verification, satisfactory in the discretion of the Board of Directors, any committee thereof or any authorized officer of the Corporation, to demonstrate the accuracy of any information submitted by the Record Stockholder pursuant to this this Section 1 or Section 2 of this Article I. If a stockholder or beneficial owner fails to provide such written verification within such period, the information as to which written verification was requested may be deemed not to have been provided in accordance with this Section 1 or Section 2 of this Article I.

(7) Except as otherwise expressly provided in any applicable rule or regulation under the Exchange Act, only such persons who are nominated in accordance with the procedures set forth in this Section 1 or Section 2 of this Article I shall be eligible to be elected to the Board of Directors at an annual or special meeting of stockholders and only such business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 1 or Section 2 of this Article I. Except as otherwise required by law or these Amended and Restated Bylaws, the chairperson of the meeting shall have the power and duty to determine whether a nomination or any business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the procedures set forth in this Section 1 or Section 2 of this Article I and, if any proposed nomination or business is not in compliance herewith, to declare that such defective proposal or nomination shall be disregarded.

(8) For purposes of these Amended and Restated Bylaws, the following definitions shall apply:

(a) a person shall be deemed to be "***Acting in Concert***" with another person if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or toward a common goal relating to the management, governance or control of the Corporation in substantial parallel with, such other person

where (1) each person is conscious of the other person's conduct or intent and this awareness is an element in their decision-making processes and (2) at least one additional factor suggests that such persons intend to act in concert or in substantial parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions or making or soliciting invitations to act in concert or in substantial parallel; *provided* that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, Section 14(a) (or any successor provision) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person;

(b) "***Aligned Person***" shall mean any stockholder or holder of Securityholdings that is not a Proposing Person that supports the proposed nominee or nominees for election or re-election to the Board of Directors or the business proposed to be brought before the annual meeting set forth in the Record Stockholder's notice;

(c) "***Appear in Person***" shall mean that the Record Stockholder that proposed the business to be brought before the annual meeting (including the nomination of candidates for election as directors to the Board of Directors), or, if the proposing stockholder is not an individual, a Qualified Representative of the proposing stockholder, appear at such annual meeting;

(d) "***Associated Person***" shall mean with respect to any subject stockholder or other person (including any proposed nominee) (1) any person directly or indirectly controlling, controlled by or under common control with such stockholder or other person, (2) any beneficial owner of shares of stock of the Corporation owned of record or beneficially by such stockholder or other person, (3) any associate (as defined in Rule 405 under the Securities Act of 1933, as amended), of such stockholder or other person, and (4) any person directly or indirectly controlling, controlled by or under common control or Acting in Concert with any such Associated Person;

(e) "***Business Day***" shall mean shall mean any day other than a Saturday, a Sunday or a day on which banking institutions in the State of California are authorized or obligated by law or executive order to close;

(f) "***Close of Business"*** shall mean 5:00 PM, Pacific Time;

(g) "***Proposing Person***" shall mean (1) the Record Stockholder providing the notice of business proposed to be brought before an annual meeting or nomination of persons for election to the Board of Directors at a stockholder meeting, (2) the beneficial owner or beneficial owners, if different, on whose behalf the notice of business proposed to be brought before the annual meeting or nomination of persons for election to the Board of Directors at a stockholder meeting is made, and (3) any Associated Person on whose behalf the notice of business proposed to be brought before the annual meeting or nomination of persons for election to the Board of Directors at a stockholder meeting is made;

(h) "***Public Announcement***" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act;

(i) to be considered a "***Qualified Representative***" of a stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as a proxy at the meeting of stockholders and such person must

produce such writing or electronic transmission, or a reliable reproduction thereof, at the annual meeting; *provided, however*, that if the Record Stockholder is (1) a general or limited partnership, any general partner or person who functions as a general partner of the general or limited partnership or who controls the general or limited partnership shall be deemed a Qualified Representative, (2) a corporation or a limited liability company, any officer or person who functions as the substantial equivalent of an officer of the corporation or limited liability company or any officer, director, general partner or person who functions as an officer, director or general partner of any entity ultimately in control of the corporation or limited liability company shall be deemed a Qualified Representative or (z) a trust, any trustee of such trust shall be deemed a Qualified Representative. The Secretary of the Corporation, or any other person who shall be appointed to serve as secretary of the meeting, may require, on behalf of the Corporation, reasonable and appropriate documentation to verify the status of a person purporting to be a "Qualified Representative" for purposes hereof;

(j) "***Solicitation Notice***" shall mean an affirmative statement by the Record Stockholder that the Record Stockholder intends to deliver a proxy statement and form of proxy to holders of, in the case of a proposal, at least the percentage of the Corporation's voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the Corporation's voting shares to elect such nominee or nominees.

(9) The foregoing provisions of this Section 1 of this Article I shall apply to the fullest extent permitted by applicable law. In addition, a stockholder shall comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth herein. Nothing in this Section 1 of this Article I shall be deemed to affect any rights of (i) stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act and, to the extent required by such rule, have such proposals considered and voted on at an annual meeting or (ii) holders of any series of preferred stock to elect directors pursuant to any applicable provisions of the Certificate of Incorporation.

Section 2. Special Meetings.

(1) Special meetings of the stockholders, other than those required by statute, may be called at any time only by the Board of Directors acting pursuant to a resolution adopted by a majority of the Whole Board. For purposes of these Amended and Restated Bylaws, the term "***Whole Board***" shall mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships. The Board of Directors may postpone, reschedule or cancel any previously scheduled special meeting. The special meeting shall be held at such place or by means of remote communication as the Board of Directors in its sole discretion may determine.

(2) Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the Board of Directors. The notice of such special meeting shall include the purpose for which the meeting is called. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of such meeting (i) by or at the direction of the Board of Directors or any committee thereof or (ii) *provided* that the Board of Directors has determined that directors shall be elected at such meeting, by any stockholder of the Corporation who meets the requirements set forth in Section 1(2)(c) of Article I and who fully complies with the notice and other procedures set forth in Section 1 of this Article I. In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any such stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be), for election to such position(s) as specified in the Corporation's notice of meeting, if the stockholder's notice required by Section 1(5) of this Article I shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation no earlier than the Close of Business on the one hundred twentieth (120th) day prior to such special meeting and not later than the Close of Business on the later of the ninetieth (90th) day prior to such special meeting or the tenth (10th) day following the day on which Public Announcement is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no event shall an adjournment or postponement

of a special meeting commence a new time period for the giving of a record stockholder's notice. A person shall not be eligible for election or reelection as a director at a special meeting unless the person is nominated (i) by or at the direction of the Board of Directors, or (ii) by a record stockholder in accordance with the notice procedures set forth in this Article I.

(3) Notwithstanding the foregoing provisions of this Section 2, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to matters set forth in this Section 2. Nothing in this Section 2 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

Section 3. Notice of Meetings.

Notice of the place, if any, date and time of all meetings of the stockholders, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, shall be given in writing or by electronic transmission in the manner required by law (including, without limitation, as set forth in Section 1 of Article VII), not less than 10 nor more than 60 days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting, except as otherwise provided herein or required by law (meaning, here and hereinafter, as required from time to time by the General Corporation Law of the State of Delaware (the "***DGCL***") or the Certificate of Incorporation of the Corporation, as may be amended or restated from time to time).

When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; *provided*, *however*, that if the date of any adjourned meeting is more than 30 days after the date for which the meeting was originally noticed, or if a new record date is fixed for the adjourned meeting, notice of the place, if any, date and time of the adjourned meeting and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting, shall be given in conformity herewith. At any adjourned meeting, any business may be transacted which might have been transacted at the original meeting. To the fullest extent permitted by law, the Board of Directors may postpone, reschedule or cancel any previously scheduled special or annual meeting of stockholders before it is to be held, regardless of whether any notice or public disclosure with respect to any such meeting has been sent or made pursuant to this Article I, Section 3 hereof or otherwise.

Section 4. Quorum.

At any meeting of the stockholders, the holders of a majority of the voting power of all of the shares of the stock entitled to vote at the meeting, present in person or by proxy, shall constitute a quorum for all purposes, unless or except to the extent that the presence of a larger number may be required by law. Where a separate vote by a class or classes or series is required, a majority of the voting power of the shares of such class or classes or series present in person or represented by proxy shall constitute a quorum entitled to take action with respect to that vote on that matter.

If a quorum shall fail to attend any meeting, the chairman of the meeting may adjourn the meeting to another place, if any, date or time.

Shares of the Corporation's stock belonging to the Corporation (or to another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation are held, directly or indirectly, by the Corporation), shall neither be entitled to vote nor be counted for quorum purposes; *provided, however*, that the foregoing shall not limit the right of the Corporation or any other corporation to vote any shares of the Corporation's stock held by it in a fiduciary capacity and to count such shares for purposes of determining a quorum. The stockholders present at a duly constituted meeting may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

Section 5. Organization.

Such person as the Board of Directors may have designated or, in the absence of such a person, the Chairman of the Board or, in his or her absence, the Chief Executive Officer of the Corporation or, in his or her absence, such person as may be chosen by the holders of a majority of the voting power of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders and act as chairman of the meeting. In the absence of the Secretary of the Corporation, the secretary of the meeting shall be such person as the chairman of the meeting appoints.

Section 6. Conduct of Business.

The chairman of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including such regulation of the manner of voting and the conduct of discussion as seem to him or her in order. The chairman of the meeting shall have the power to adjourn the meeting to another place, if any, date and time. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting.

Section 7. Proxies and Voting; Inspector of Elections.

At any meeting of the stockholders, every stockholder entitled to vote may vote in person or by proxy authorized by an instrument in writing or by a transmission permitted by law filed in accordance with the procedure established for the meeting. Any copy, facsimile telecommunication, electronic transmission or other reliable reproduction of the writing or transmission created pursuant to this paragraph may be substituted or used in lieu of the original writing or transmission for any and all purposes for which the original writing or transmission could be used; *provided* that such copy, facsimile telecommunication, electronic transmission or other reproduction shall be a complete reproduction of the entire original writing or transmission.

If shares or other securities having voting power stand of record in the names of two or more persons, whether fiduciaries, members of a partnership, joint tenants, tenants in common, tenants by the entirety, or otherwise, or if two or more persons have the same fiduciary relationship respecting the same shares, unless the Secretary of the Corporation is given written notice to the contrary and is furnished with a copy of the instrument or order appointing them or creating the relationship wherein it is so provided, their acts with respect to voting shall have the following effect: (a) if only one votes, his or her act binds all; (b) if more than one votes, the act of the majority so voting binds all; (c) if more than one votes, but the vote is evenly split on any particular matter, each faction may vote the securities in question proportionally, or any person voting the shares, or a beneficiary, if any, may apply to the Delaware Court of Chancery or such other court as may have jurisdiction for relief as provided in Section 217(b) of the DGCL. If the instrument filed with the Secretary of the Corporation shows that any such tenancy is held in unequal interests, a majority or even-split for the purpose of clause (c) of this paragraph shall be a majority or even-split in interest.

The Corporation may, and to the extent required by law, shall, in advance of any meeting of stockholders, appoint one or more inspectors of election to act at the meeting and make a written report thereof. The Corporation may designate one or more alternate inspectors of election to replace any inspector of election who fails to act. If no inspector of election or alternate is able to act at a meeting of stockholders, the person presiding at the meeting may, and to the extent required by law, shall, appoint one or more inspectors of election to act at the meeting. Each inspector of election, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector of election with strict impartiality and according to the best of his or her ability. The inspector or inspectors of election so appointed and designated shall (i) ascertain the number of shares of capital stock of the Corporation outstanding and the voting power of each share, (ii) determine the shares of capital stock of the Corporation represented at the meeting and the validity of proxies and ballots, (iii) count all votes and ballots, (iv) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors of election, and (v) certify their determination of the number of shares of capital stock of the Corporation represented at the meeting.

All elections shall be determined by a plurality of the votes cast, and except as otherwise required by law or the rules and regulations of any stock exchange applicable to the Corporation, all other matters shall be determined by a majority of the votes cast affirmatively or negatively.

Section 8. Stock List.

A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in his or her name, shall be open to the examination of any such stockholder, during ordinary business hours, for a period of at least 10 days prior to the meeting in the manner required by law.

If the meeting is held at a location where stockholders may attend in person, the list shall also be produced and kept at the time and place of the meeting during the whole time thereof and may be inspected by any stockholder who is present at the meeting. If the meeting is held solely by means of remote communication, then the list shall be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access the list shall be provided with the notice of the meeting.

ARTICLE II - BOARD OF DIRECTORS

Section 1. Number, Election and Term of Directors.

The authorized number of directors shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the Whole Board. Each director shall hold office until the next annual meeting of stockholders and until his or her successor shall have been duly elected and qualified or until his or her earlier death, resignation, disqualification or removal from office.

Section 2. Newly Created Directorships and Vacancies.

Subject to the rights of the holders of any series of preferred stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall, unless otherwise required by law or by resolution of the Board of Directors, be filled only by a majority vote of the directors then in office, though less than a quorum (and not by stockholders), and directors so chosen shall serve for the remainder of the full term of the director for which the vacancy was created or occurred or until such director’s successor shall have been duly elected and qualified or until his or her earlier death, resignation, disqualification or removal from office. No decrease in the number of authorized directors shall shorten the term of any incumbent director. Directors need not be stockholders of the Corporation.

Section 3. Resignation.

Any director may resign at any time by delivering his or her notice in writing or by electronic transmission to the Secretary of the Corporation, such resignation to specify whether it will be effective at a particular time, upon receipt by the Secretary of the Corporation or at the pleasure of the Board of Directors. If no such specification is made, it shall be deemed effective at the pleasure of the Board of Directors. When one or more directors shall resign from the Board of Directors, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have the power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office for the unexpired portion of the term of the director whose place shall be vacated and until his or her successor shall have been duly elected and qualified or until his or her earlier death, resignation, disqualification or removal from office.

Section 4. Regular Meetings.

Regular meetings of the Board of Directors shall be held at such place or places, on such date or dates, and at such time or times as shall have been established by the Board of Directors and publicized among all directors, either

orally or in writing, by telephone, including a voice-messaging system or other system designed to record and communicate messages or facsimile, or by electronic mail or other electronic means. No further notice will be required for regular meetings of the Board of Directors.

Section 5. Special Meetings.

Special meetings of the Board of Directors may be called by the Chairman of the Board, the Chief Executive Officer or by a majority of the Whole Board and shall be held at such place, on such date, and at such time as they or he or she shall fix. Notice of the place, date, and time of each such special meeting shall be given to each director by whom it is not waived orally or in writing, by telephone, including a voice messaging system or other system or technology designed to record and communicate messages or facsimile, or by electronic mail or other electronic means, during normal business hours, at least twenty-four (24) hours before the date and time of the meeting. If notice is sent by U.S. mail, it will be sent by first class mail, postage prepaid at least three (3) days before the date of the meeting. Notice of any meeting may be waived in writing or by electronic transmission at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

Section 6. Quorum.

At any meeting of the Board of Directors, a majority of the total number of the Whole Board shall constitute a quorum for all purposes. If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, date, or time, without further notice or waiver thereof.

Section 7. Participation in Meetings By Conference Telephone.

Members of the Board of Directors, or of any committee thereof, may participate in a meeting of such Board of Directors or committee by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other and such participation shall constitute presence in person at such meeting.

Section 8. Conduct of Business.

At any meeting of the Board of Directors, business shall be transacted in such order and manner as the Board of Directors may from time to time determine, and all matters shall be determined by the vote of a majority of the directors present, except as otherwise provided herein or required by law. Action may be taken by the Board of Directors without a meeting if all members thereof consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 9. Compensation of Directors.

Unless otherwise required by law, the Board of Directors shall have the authority to fix the compensation of the directors. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors and may be paid a fixed sum for attendance at each meeting of the Board of Directors or paid a stated salary or paid other compensation as director. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed compensation for attending committee meetings.

ARTICLE III - COMMITTEES

Section 1. Committees of the Board of Directors.

The Board of Directors may from time to time designate committees of the Board of Directors, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the Board of Directors and shall, for those committees and any others provided for herein, elect a director or directors to serve as the member or members, designating, if it desires, other directors as alternate members who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of any member of any committee and any alternate member in his or her place, the member or members of the committee present at the meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may by unanimous vote appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member.

Section 2. Conduct of Business.

Each committee of the Board of Directors may determine the procedural rules for meeting and conducting its business and shall act in accordance therewith, except as otherwise provided herein or required by law. In the absence of such rules, each committee shall conduct its business in the same manner as the Board of Directors conducts its business pursuant to Article II, *mutatis mutandis*. Adequate provision shall be made for notice to members of all meetings; one-third (1/3) of the members shall constitute a quorum unless the committee shall consist of one or two members, in which event one member shall constitute a quorum; and all matters shall be determined by a majority vote of the members present. Action may be taken by any committee without a meeting if all members thereof consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of the proceedings of such committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

ARTICLE IV - OFFICERS

Section 1. Generally.

The officers of the Corporation shall consist of, if and when designated by the Board of Directors, a Chief Executive Officer, a President, one or more Vice Presidents, a Secretary, a Treasurer and such other officers, including a Chief Financial Officer, and/or an Assistant Secretary, as may from time to time be appointed by the Board of Directors. All officers shall be elected by the Board of Directors; *provided*, *however*, that the Board of Directors may empower the Chief Executive Officer of the Corporation to appoint any officer other than the Chairman of the Board, the Chief Executive Officer, the President, the Chief Financial Officer or the Treasurer. Each officer shall hold office until his or her successor is elected and qualified or until his or her earlier death, resignation or removal. Any number of offices may be held by the same person unless specifically prohibited therefrom by law. The salaries of officers elected by the Board of Directors shall be fixed from time to time by the Board of Directors, a committee thereof or by such officers as may be designated by resolution of the Board of Directors.

Section 2. Chief Executive Officer.

The Chief Executive Officer shall have the responsibility for the general management and control of the business and affairs of the Corporation and shall perform all duties and have all powers that are commonly incident to the office of chief executive or which are delegated to him or her by the Board of Directors. The Chief Executive Officer shall preside at all meetings of the stockholders. He or she shall have power to sign all stock certificates, contracts and other instruments of the Corporation that are authorized and shall have general supervision and direction of all of the other officers, employees and agents of the Corporation.

Section 3. President.

The President shall be the chief operating officer of the Corporation. He or she shall have general responsibility for the management and control of the operations of the Corporation and shall perform all duties and have all powers that are commonly incident to the office of chief operating officer or that are delegated to him or her by the Board of

Directors. Subject to the direction of the Board of Directors and the Chief Executive Officer, the President shall have power to sign all stock certificates, contracts and other instruments of the Corporation that are authorized and shall have general supervision of all of the other officers (other than the Chief Executive Officer), employees and agents of the Corporation. Unless another officer has been appointed the Corporation's Chief Executive Officer, the President shall also have the powers and responsibilities set forth under Section 2 of this Article IV.

Section 4. Vice President.

Each Vice President shall have such powers and duties as may be delegated to him or her by the Board of Directors and that are commonly incident to their office. One Vice President shall be designated by the Board of Directors to perform the duties and exercise the powers of the President in the event of the President's absence or disability.

Section 5. Chief Financial Officer.

The Chief Financial Officer shall keep or cause to be kept the books of account of the Corporation in a thorough and proper manner and shall render statements of the financial affairs of the Corporation in such form and as often as required by the Board of Directors, the Chief Executive Officer or the President. The Chief Financial Officer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the Corporation. The Chief Financial Officer shall perform other duties commonly incident to the office of the chief financial officer and shall also perform such other duties and have such other powers as the Board of Directors, the Chief Executive Officer or the President shall designate from time to time. The Chief Executive Officer or the President may direct the Treasurer or any Assistant Treasurer, or the Controller or any Assistant Controller to assume and perform the duties of the Chief Financial Officer in the absence or disability of the Chief Financial Officer.

Section 6. Secretary.

The Secretary shall issue all authorized notices for, and shall maintain minutes of, all meetings of the stockholders and the Board of Directors and any committee thereof. He or she shall have charge of the corporate books and shall perform such other duties that are commonly incident to the office of secretary and as the Board of Directors may from time to time prescribe. The Chief Executive Officer or the President may direct any Assistant Secretary or other officer to assume and perform the duties of the Secretary in the absence or disability of the Secretary.

Section 7. Treasurer.

The Treasurer shall make such disbursements of the funds of the Corporation as are authorized and shall render from time to time an account of all such transactions and of the financial condition of the Corporation. The Treasurer shall also perform such other duties that are commonly incident to the office of treasurer and as the Board of Directors may from time to time prescribe. Unless another officer has been appointed the Corporation's Chief Financial Officer, the Treasurer shall also have the powers and responsibilities set forth under Section 5 of this Article IV.

Section 8. Chairperson of the Board.

The Chairman of the Board (which may also be referred to as the "***Chairwoman of the Board***" or "***Chairperson of the Board***," as applicable) shall have the power to preside at all meetings of the Board of Directors and shall have such other powers and duties as provided in these Amended and Restated Bylaws and as the Board of Directors may from time to time prescribe.

Section 9. Delegation of Authority.

The Board of Directors may from time to time delegate the powers or duties of any officer to any other officers or agents, notwithstanding any provision hereof.

Section 10. Removal.

Any officer of the Corporation may be removed at any time, with or without cause, by the affirmative vote of a majority of the members of the Board of Directors or by the Chief Executive Officer or by other superior officers upon whom such power of removal may have been conferred by the Board of Directors.

Section 11. Resignations.

Any officer may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the Chief Executive Officer, the President or the Secretary. Any such resignation shall be effective when received by the person or persons to whom such notice is given, unless a later time is specified therein, in which event the resignation shall become effective at such later time. Unless otherwise specified in such notice, the acceptance of any such resignation shall not be necessary to make it effective. Any resignation shall be without prejudice to the rights, if any, of the Corporation under any contract with the resigning officer.

Section 12. Action with Respect to Securities of Other Corporations.

Unless otherwise directed by the Board of Directors, the Chief Executive Officer, the President and the Chief Financial Officer shall each have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of stockholders of or with respect to any action of stockholders of any other corporation or entity in which this Corporation may hold securities and otherwise to exercise any and all rights and powers which this Corporation may possess by reason of its ownership of securities in such other corporation or entity.

ARTICLE V - STOCK

Section 1. Certificates of Stock; Uncertificated Shares.

The shares of the Corporation shall be evidenced by certificates; *provided*, *however*, that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of stock of the Corporation shall be uncertificated shares. Any such resolution shall not apply to shares evidenced by a certificate until such certificate is surrendered to the Corporation. Notwithstanding the adoption of such a resolution by the Board of Directors, every holder of stock evidenced by certificates, and upon request every holder of uncertificated shares, shall be entitled to have a certificate signed by, or in the name of the Corporation by, the Chairman or a Vice-Chairman of the Board of Directors or the President or a Vice President, and by the Secretary or an Assistant Secretary, or the Treasurer or an Assistant Treasurer, certifying the number of shares owned by him or her. Any or all of the signatures on the certificate may be by facsimile. In the case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were an officer, transfer agent or registrar at the date of issue.

Section 2. Transfers of Stock.

Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation or by transfer agents designated to transfer shares of the stock of the Corporation. Except where a certificate is issued in accordance with Section 5 of this Article V of these Amended and Restated Bylaws, an outstanding certificate for the number of shares involved, if such stock is certificated, shall be surrendered for cancellation before a new certificate is issued therefor.

Section 3. Record Date.

In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders, or to receive payment of any dividend or other distribution or allotment of any rights or to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may, except as otherwise required by law, fix a record date, which record date shall not precede the date on which the resolution fixing the record date is adopted by the Board of Directors and which record date shall

not be more than 60 nor less than 10 days before the date of any meeting of stockholders, nor more than 60 days prior to the time for such other action as hereinbefore described; *provided*, *however*, that if no record date is fixed by the Board of Directors, the record date shall be as provided by applicable law.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided*, *however*, that the Board of Directors may fix a new record date for the adjourned meeting, which record date shall not precede the date on which the resolution fixing the record date is adopted by the Board of Directors and which record date shall not be more than 60 nor less than 10 days before the date of such adjourned meeting, and shall give notice of the adjourned meeting to each stockholder of record entitled to vote at such adjourned meeting as of the record date fixed for notice of such adjourned meeting.

Section 4. Registered Stockholders.

The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of the State of Delaware.

Section 5. Lost, Stolen or Destroyed Certificates.

The Corporation may issue a new certificate of stock, or uncertificated shares, in the place of any certificate previously issued by it, alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to agree to indemnify the Corporation and/or to give the Corporation a bond sufficient to indemnify it, against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate.

Section 6. Regulations.

The issue, transfer, conversion and registration of certificates of stock and uncertificated securities shall be governed by such other regulations as the Board of Directors may establish or its transfer agent may require.

ARTICLE VI - OTHER SECURITIES OF THE CORPORATION

Section 1. Execution of Corporate Instruments.

All bonds, debentures and other corporate securities of the Corporation, other than stock certificates (covered in Article V of these Amended and Restated Bylaws), may be signed by the Chairman of the Board, the Chief Executive Officer, the President or any Vice President, or such other person as may be authorized by the Board of Directors, and the corporate seal impressed thereon or a facsimile of such seal imprinted thereon and attested by the signature of the Secretary or an Assistant Secretary, or the Chief Financial Officer or Treasurer or an Assistant Treasurer; *provided*, *however*, that where any such bond, debenture or other corporate security shall be authenticated by the manual signature, or where permissible facsimile signature, of a trustee under an indenture pursuant to which such bond, debenture or other corporate security shall be issued, the signatures of the persons signing and attesting the corporate seal on such bond, debenture or other corporate security may be the imprinted facsimile of the signatures of such persons. Interest coupons appertaining to any such bond, debenture or other corporate security, authenticated by a trustee as aforesaid, shall be signed by the Treasurer or an Assistant Treasurer of the Corporation or such other person as may be authorized by the Board of Directors, or bear imprinted thereon the facsimile signature of such person.

Section 2. Voting of Securities Owned by the Corporation.

All stock and other securities of other corporations owned or held by the Corporation for itself, or for other parties in any capacity, will be voted, and all proxies with respect thereto will be executed, by the person authorized so to do by resolution of the Board of Directors, or, in the absence of such authorization, by the Chairman of the Board, the Chief Executive Officer, the President or any Vice President.

ARTICLE VII - NOTICES

Section 1. Notices.

If mailed, notice to stockholders shall be deemed given when deposited in the mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders may be given by hand delivery (including use of a delivery service), overnight express courier, facsimile, electronic mail or by other form of electronic transmission consented to by the stockholder to whom the notice is given in the manner provided in Section 232 of the DGCL. Any consent given pursuant to Section 232 of the DGCL shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if (a) the Corporation is unable to deliver by electronic transmission two consecutive notices given by the Corporation in accordance with such consent, and (b) such inability becomes known to the Secretary or an Assistant Secretary of the Corporation or to the transfer agent, or other person responsible for the giving of notice; *provided*, *however*, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action. Notice given pursuant to this paragraph shall be deemed given: (i) in the case of hand delivery, when received by the person to whom notice is to be given or by any person accepting such notice on behalf of such person, (ii) in the case of delivery by overnight express courier, when dispatched, (iii) if by facsimile, when directed to a number at which the stockholder has consented to receive notice; (iv) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice; (v) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (A) such posting and (B) the giving of such separate notice; and (vi) if by any other form of electronic transmission, when directed to the stockholder.

Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders given by the Corporation under the provisions of the DGCL, the Corporation's Certificate of Incorporation or these Amended and Restated Bylaws shall be effective if given by a single written notice to stockholders who share an address if consented to by the stockholders at that address to whom such notice is given. Any stockholder who fails to object in writing to the Corporation, within 60 days of having been given written notice by the Corporation of its intention to send such single notice, shall be deemed to have consented to receiving such single written notice. Any such consent shall be revocable by the stockholder by written notice to the Corporation.

An affidavit of the Secretary or an Assistant Secretary or of the transfer agent or other agent of the Corporation that the notice has been given in writing or by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

Section 2. Waivers.

A written waiver of any notice, signed by a stockholder or director, or waiver by electronic transmission by such person, whether given before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such person. Neither the business nor the purpose of any meeting need be specified in such a waiver. Attendance at any meeting shall constitute waiver of notice except attendance for the sole purpose of objecting to the timeliness of notice.

Section 3. Notice to Person with Whom Communication is Unlawful.

Whenever notice is required by law or these Amended and Restated Bylaws to be given to any person with whom communication is unlawful, the giving of such notice to such person will not be required and there will be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which will be taken or held without notice to any such person with whom communication is unlawful will have the same force and effect as if such notice had been duly given. In the event that the action taken by the Corporation is such as to require the filing of a certificate under any provision of the DGCL, the certificate will state, if such is the fact and if notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

ARTICLE VIII - MISCELLANEOUS

Section 1. Corporate Seal.

The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary. If and when so directed by the Board of Directors or a committee thereof, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer.

Section 2. Reliance upon Books, Reports and Records.

Each director, each member of any committee designated by the Board of Directors, and each officer of the Corporation shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers or employees, or committees of the Board of Directors so designated, or by any other person as to matters which such director or committee member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 3. Fiscal Year.

The fiscal year of the Corporation shall be as fixed by the Board of Directors.

Section 4. Time Periods.

In applying any provision of these Amended and Restated Bylaws that requires that an act be done or not be done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

Section 5. Other Offices.

The Corporation shall also have and maintain an office or principal place of business at such place as may be fixed by the Board of Directors, and may also have offices at such other places, both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

Section 6. Execution of Corporate Instruments.

The Board of Directors may, in its discretion, determine the method and designate the signatory officer or officers, or other person or persons, to execute on behalf of the Corporation any corporate instrument or document, or to sign on behalf of the Corporation the corporate name without limitation, or to enter into contracts on behalf of the Corporation, except where otherwise required by law or these Amended and Restated Bylaws, and such execution or signature shall be binding upon the Corporation.

All checks and drafts drawn on banks or other depositaries on funds to the credit of the Corporation or in special accounts of the Corporation shall be signed by such person or persons as provided in these Amended and Restated Bylaws or as the Board of Directors shall authorize so to do.

Unless authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

Section 7. Forum for Certain Actions.

Except for (a) actions in which the Court of Chancery in the State of Delaware concludes that an indispensable party is not subject to the jurisdiction of the Delaware courts, and (b) actions in which a federal court has assumed exclusive jurisdiction of a proceeding, (i) any derivative action or proceeding brought by or on behalf of the Corporation,

(ii) any direct action asserting a claim against the Corporation or any of its directors or officers, pursuant to any provisions of the DGCL, the Corporation's Certificate of Incorporation or these Amended and Restated Bylaws or (iii) any action asserting a claim of breach of fiduciary duties owed by any director, officer or other employee of the Corporation to the Corporation's stockholders or (iv) any action asserting a violation of Delaware decisional law relating to the internal affairs of the Corporation, shall be brought in the Court of Chancery in the State of Delaware, which shall be the sole and exclusive forum for such proceedings; *provided, however*, that the Corporation may consent to an alternative forum for any such proceedings upon the approval of the Board of Directors. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Section 7 of this Article VIII.

ARTICLE IX - INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 1. Right to Indemnification.

Each person who was or is made a party or is threatened to be made a party to or is otherwise involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative investigative, legislative or any other type whatsoever, preliminary, informal or formal, including any arbitration or other alternative dispute resolution and including any appeal of any of the foregoing (hereinafter a "***Proceeding***"), by reason of the fact that he or she (or a person of whom such person is the legal representative) is or was a director or an officer of the Corporation or is or was serving at the request of the Corporation as a director, officer or trustee of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "***Indemnitee***"), whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by the Corporation to the fullest extent permitted by applicable law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such Indemnitee in connection therewith; *provided*, *however*, that, except as provided in Section 3 of this Article IX with respect to proceedings to enforce rights to indemnification, the Corporation shall indemnify any such Indemnitee in connection with a Proceeding (or part thereof) initiated by such Indemnitee only if such Proceeding (or part thereof) was authorized by the Board of Directors or is expressly required by law. Such indemnification shall continue as to an Indemnitee who has ceased to be a director or executive officer and shall inure to the benefit of such Indemnitees' heirs, executors and administrators.

Section 2. Right to Advancement of Expenses.

In addition to the right to indemnification conferred in Section 1 of this Article IX, an Indemnitee shall also have the right to be paid by the Corporation the expenses (including attorney's fees) incurred in defending any such Proceeding in advance of its final disposition (hereinafter an "***Advancement of Expenses***"); *provided*, *however*, that, if required by the DGCL, an Advancement of Expenses incurred by an Indemnitee in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such Indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "***Undertaking***"), by or on behalf of such Indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal (hereinafter a "***Final Adjudication***") that such Indemnitee is not entitled to be indemnified for such expenses under Section 1 of this Article IX or otherwise.

Section 3. Right of Indemnitee to Bring Suit.

If a claim under Section 1 or 2 of this Article IX is not paid in full by the Corporation within 60 days after a written claim has been received by the Corporation, except in the case of a claim for an advancement of expenses, in which case the applicable period shall be 20 days, the Indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an Advancement of Expenses pursuant to the terms of an Undertaking, the

Indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit. In (i) any suit brought by the Indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the Indemnitee to enforce a right to an Advancement of Expenses), it shall be a defense that, and (ii) any suit brought by the Corporation to recover an Advancement of Expenses pursuant to the terms of an Undertaking, the Corporation shall be entitled to recover such expenses upon a Final Adjudication that, in either case the Indemnitee has not met any applicable standard for indemnification set forth in the DGCL. Neither the failure of the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the Indemnitee is proper in the circumstances because the Indemnitee has met the applicable standard of conduct set forth in the DGCL, nor an actual determination by the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) that the Indemnitee has not met such applicable standard of conduct, shall create a presumption that the Indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the Indemnitee, be a defense to such suit. In any suit brought by the Indemnitee to enforce a right to indemnification or to an Advancement of Expenses hereunder, or brought by the Corporation to recover an Advancement of Expenses pursuant to the terms of an Undertaking, the burden of proving that the Indemnitee is not entitled to be indemnified, or to such Advancement of Expenses, under this Article IX or otherwise shall be on the Corporation.

Section 4. Non-Exclusivity of Rights.

The rights to indemnification and to the Advancement of Expenses conferred in this Article IX shall not be exclusive of any other right that any person may have or hereafter acquire under any statute, the Corporation's Certificate of Incorporation, these Amended and Restated Bylaws, agreement, vote of stockholders or directors or otherwise.

Section 5. Insurance.

The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Section 6. Indemnification of Employees and Agents of the Corporation.

The Corporation may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation to the fullest extent of the provisions of this Article IX with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

Section 7. Nature of Rights.

The rights conferred upon indemnitees in this Article IX shall be contract rights and such rights shall continue as to an Indemnitee who has ceased to be a director, officer or trustee and shall inure to the benefit of the Indemnitee's heirs, executors and administrators. Any amendment, alteration or repeal of this Article IX that adversely affects any right of an Indemnitee or its successors shall be prospective only and shall not limit or eliminate any such right with respect to any Proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment or repeal.

Section 8. Saving Clause.

If this Article IX or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify and advance expenses to each director and officer to the fullest extent not prohibited by any applicable portion of this Article IX that shall not have been invalidated, or by any other applicable law. If this Article IX shall be invalid due to the application of the indemnification provisions of another jurisdiction, then the Corporation shall indemnify and advance expenses to each director and officer to the fullest extent permitted under any other applicable law.

ARTICLE X - AMENDMENTS

Subject to the limitations set forth in Section 7 of Article IX of these Amended and Restated Bylaws, in furtherance and not in limitation of the powers conferred by law, the Board of Directors is expressly authorized to adopt, amend and repeal these Amended and Restated Bylaws subject to the power of the holders of capital stock of the Corporation to adopt, amend or repeal bylaws of the Corporation; *provided*, *however*, that, with respect to the power of holders of capital stock to adopt, amend and repeal bylaws of the Corporation, notwithstanding any other provision of these Amended and Restated Bylaws or any provision of law that might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the capital stock of the Corporation required by law, these Amended and Restated Bylaws or any preferred stock, the affirmative vote of the holders of at least sixty-seven (67%) of the voting power of all of the then-outstanding shares entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of these Amended and Restated Bylaws.

FIRST AMENDMENT TO OFFICE LEASE

This FIRST AMENDMENT TO OFFICE LEASE ("**First Amendment**") is made and entered into as of October 19, 2018, by and between HCP LIFE SCIENCE REIT, INC., a Maryland corporation ("**Landlord**"), and SORRENTO THERAPEUTICS, INC., a Delaware corporation ("**Tenant**").

R E C I T A L S :

A. Landlord and Tenant are parties to the Lease dated September 8, 2016 (the "**Lease**"), pursuant to which Tenant leases approximately 76,687 rentable square feet of space, consisting of the entire building (the "**Building**") located at 4955 Directors Place, San Diego, California 92121.

B. The parties desire to amend the Lease on the terms and conditions set forth in this First Amendment.

A G R E E M E N T :

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. **Terms**. All capitalized terms when used herein shall have the same respective meanings as are given such terms in the Lease unless expressly provided otherwise in this First Amendment.

2. **Condition of the Premises**. Landlord and Tenant acknowledge that Tenant has been occupying the Premises pursuant to the Lease, and therefore Tenant continues to accept the Premises in its presently existing, "as is" condition. Except as otherwise provided in the Lease, Landlord shall not be obligated to provide or pay for any improvement work or services related to the improvement of the Premises. Tenant also acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty regarding the condition of the Premises, the Building, or the Project or with respect to the suitability of the same for the conduct of Tenant's business.

3. **Extended Lease Term**. Pursuant to the Lease, the Lease Term is scheduled to expire on November 30, 2025. Landlord and Tenant hereby agree to extend the Lease Term for a period of three (3) years and eleven (11) months, from December 1, 2025, through October 31, 2029 (the "**Extended Term**"), on the terms and conditions set forth in the Lease, as hereby amended by this First Amendment, unless sooner terminated as provided in the Lease.

3.1 **Option to Extend Lease Term**. Landlord and Tenant acknowledge and agree that Tenant shall continue to have one (1) option to extend the Lease Term for a period of five (5) years in accordance with, and pursuant to the terms of, Section 2.2 of the Lease; provided, however, all references therein to the "initial Lease Term" shall be deemed to refer to the "Extended Term," and all references to "the first year of the Option Term (i.e., December 1, 2025 – November 30, 2026)" shall be deemed to refer to "the first year of the Option Term (i.e., November 1, 2029 – October 31, 2034)."

4. Rent.

4.1 **Base Rent**. During the Extended Term, Tenant shall pay monthly installments of Base Rent for the Premises as follows, and otherwise shall pay such Base Rent in accordance with the terms of the Lease:

Period During Extended Term	Annual Base Rent	Monthly Installment of Base Rent	Monthly Rental Rate per Square Foot
December 1, 2025 – November 30, 2026	$3,598,154.04	$299,846.17	$3.91
December 1, 2026 – November 30, 2027	$3,706,098.66	$308,841.56	$4.03
December 1, 2027 – November 30, 2028	$3,817,281.62	$318,106.80	$4.15
December 1, 2028 – October 31, 2029	$3,931,800.07	$327,650.01	$4.27

4.2 **Direct Expenses**. Tenant shall pay continue to pay Tenant's Share of all Direct Expenses during the Extended Term in accordance with the terms of the Lease.

5. **Right of First Offer**. Tenant's right of first offer set forth in Section 1.3 of the Lease is hereby deleted in its entirety and of no further force or effect.

6. **Brokers**. Landlord and Tenant hereby warrant to each other that they have had no dealings with any real estate broker or agent in connection with the negotiation of this First Amendment other than CBRE, Inc. and Avison Young (the "**Brokers**"), and that they know of no other real estate broker or agent who is entitled to a commission in connection with this First Amendment. Each party agrees to indemnify and defend the other party against and hold the other party harmless from any and all claims, demands, losses, liabilities, lawsuits, judgments, costs and

expenses (including without limitation reasonable attorneys' fees) with respect to any leasing commission or equivalent compensation alleged to be owing on account of any dealings with any real estate broker or agent, other than the Brokers, occurring by, through, or under the indemnifying party. The terms of this Section 5 shall survive the expiration or earlier termination of the term of the Lease, as hereby amended.

7. **California Required Disclosures**. As required by Section 1938(e) of the California Civil Code, Landlord hereby states as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." In furtherance of the foregoing, Landlord and Tenant hereby agree as follows: (a) any CASp inspection requested by Tenant shall be conducted, at Tenant's sole cost and expense, by a CASp approved in advance by Landlord; and (b) pursuant to Article 24 of the Lease, Tenant, at its cost, is responsible for making any repairs within the Premises to correct violations of construction-related accessibility standards; and, if anything done by or for Tenant in its use or occupancy of the Premises shall require repairs to the Building (outside the Premises) to correct violations of construction-related accessibility standards, then Tenant shall, at Landlord's option, either perform such repairs at Tenant's sole cost and expense or reimburse Landlord upon demand, as Additional Rent, for the cost to Landlord of performing such repairs.

8. **No Further Modification**. Except as specifically set forth in this First Amendment, all of the terms and provisions of the Lease shall remain unmodified and in full force and effect.

[SIGNATURES FOLLOW ON NEXT PAGE]

IN WITNESS WHEREOF, this First Amendment has been executed as of the day and year first above written.

"**LANDLORD**" HCP LIFE SCIENCE REIT, INC.,
a Maryland corporation

By: /s/ Michael Dorris

Its: Vice President

"**TENANT**" SORRENTO THERAPEUTICS, INC.,
a Delaware corporation

By: /s/ Henry Ji, Ph.D.

Henry Ji, Ph.D.
Print Name

Its: President &
CEO

By: /s/ Jiong Shao

Jiong Shao
Print Name

Its: CFO

SORRENTO GATEWAY

LEASE

This Lease (the "**Lease**"), dated as of the date set forth in Section 1 of the Summary of Basic Lease Information (the "**Summary**"), below, is made by and between HCP LIFE SCIENCE ESTATES, INC., a Delaware corporation ("**Landlord**"), and SORRENTO THERAPEUTICS, INC., a Delaware corporation ("**Tenant**").

SUMMARY OF BASIC LEASE INFORMATION

TERMS OF LEASE	DESCRIPTION
1. Date:	November 13, 2018
2. Premises (Article 1).	
2.1 Building:	That certain two (2)-story building located at 4939 Directors Place, San Diego, California 92121.
2.2 Premises:	All of the approximately 61,207 rentable square feet of space located in the Building (and including Tenant's Share of that certain 2,454 rentable square feet of space located in the ancillary amenities building within the Project and Tenant shall have the right to access and use such amenities to the same extent as the other tenants of the Project), as further set forth in **Exhibit A** to the Lease.
3. Lease Term (Article 2).	
3.1 Length of Term:	Ten (10) years and seven (7) months.
3.2 Lease Commencement Date:	April 1, 2019.
3.3 Lease Expiration Date:	October 31, 2029.

4. Base Rent (Article 3):

Lease Months	Annual Base Rent	Monthly Installment of Base Rent*	Approximate Monthly Base Rent per Rentable Square Foot
1-12**	$2,607,418.20	$217,284.85	$3.55
13-24	$2,685,640.80	$223,803.40	$3.66
25-36	$2,766,210.00	$230,517.50	$3.77
37-48	$2,849,196.24	$237,433.02	$3.88
49-60	$2,934,672.12	$244,556.01	$4.00
61-72	$3,022,712.28	$251,892.69	$4.12
73-84	$3,113,393.64	$259,449.47	$4.24
85-96	$3,206,795.52	$267,232.96	$4.37
97-108	$3,302,999.40	$275,249.95	$4.50
109-120	$3,402,089.40	$283,507.45	$4.63

121- Lease Expiration Date	$3,504,152.04	$292,012.67	$4.77

*The calculation of the Monthly Installment of Base Rent reflects an annual increase of 3%, rounded to the nearest cent, after every twelve (12) Lease Month period.

**Tenant's obligation to pay the Monthly Installment of Base Rent otherwise attributable to the Premises shall be subject to the terms and conditions of Section 3.2 of this Lease.

5. Tenant Improvement Allowance (**Exhibit B**):	An amount equal to $6,120,700.00 (*i.e.*, an amount equal to $100.00 per rentable square feet in the Premises); provided, however, the foregoing amount may be increased by up to an additional $25.00 per rentable square foot of the Premises in accordance with the terms and conditions of Sections 2.1.2, 2.1.3 and 2.1.4 of the Tenant Work Letter.
6. Tenant's Share (Article 4):	One hundred percent (100%).
7. Permitted Use (Article 5):	The Premises shall be used only for general office, research and development, manufacturing and/or laboratory uses, including, but not limited to, administrative offices and other lawful uses reasonably related to or incidental to such specified uses, all (i) consistent with first class life sciences projects in San Diego, California ("**First Class Life Sciences Projects**"), and (ii) in compliance with, and subject to, applicable laws and the terms of this Lease.
8. Letter of Credit (Article 21):	$353,209.67
9. Parking (Article 28):	Provided Tenant is the tenant under the "4955 DP Lease," as that term is defined in Section 1.1.2 of the Lease, and the 4955 DP Lease remains in full force and effect, then Tenant shall have the exclusive use of all parking areas within the Project.
10. Address of Tenant (Section 29.18):	Sorrento Therapeutics, Inc. 4955 Directors Place San Diego, California 92121 Attention: Jiong Shao, CFO
11. Address of Landlord (Section 29.18):	See Section 29.18 of the Lease.
12. Broker(s) (Section 29.24):	Representing Tenant: Avison Young and Representing Landlord: CBRE

1. PREMISES, BUILDING, PROJECT, AND COMMON AREAS

1.1 **Premises, Building, Project and Common Areas**.

1.1.1 **The Premises**. Landlord hereby leases to Tenant and Tenant hereby leases from Landlord the premises set forth in Section 2.2 of the Summary (the "**Premises**"). The outline of the Premises is set forth in **Exhibit A** attached hereto. The outline of the "Building" and the "Project," as those terms are defined in Section 1.1.2 below, are further depicted on the Site Plan attached hereto as **Exhibit A-1**. The parties hereto agree that the lease of the Premises is upon and subject to the terms, covenants and conditions herein set forth, and Tenant covenants as a material part of the consideration for this Lease to keep and perform each and all of such terms, covenants and conditions by it to be kept and performed and that this Lease is made upon the condition of such performance. The parties hereto hereby acknowledge that the purpose of **Exhibit A** is to show the approximate location of the Premises only, and such Exhibit is not meant to constitute an agreement, representation or warranty as to the construction of the Premises, the precise area thereof or the specific location of the "Common Areas," as that term is defined in Section 1.1.3, below, or the elements thereof or of the accessways to the Premises or the "Project," as that term is defined in Section 1.1.2, below. Except as specifically set forth in this Lease and in the Tenant Work Letter attached hereto as **Exhibit B** (the "**Tenant Work Letter**"), Landlord shall not be obligated to provide or pay for any improvement work or services related to the improvement of the Premises. Tenant also acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty regarding the condition of the Premises, the Building or the Project or with respect to the suitability of any of the foregoing for the conduct of Tenant's business, except as specifically set forth in this Lease and the Tenant Work Letter. Subject to the terms and conditions of this Lease and the Tenant Work Letter, the taking of possession of the Premises by Tenant shall conclusively establish that the Premises and the Building were at such time in good and sanitary order, condition and repair. Subject to "Applicable Laws," as that term is defined in Article 24 of this Lease, and the other provisions of this Lease, and except in the event of an emergency, Tenant shall have access to the Premises twenty-four (24) hours per day, seven (7) days per week, every day of the year.

1.1.2 **The Building and The Project**. The Premises constitutes the entire building set forth in Section 2.1 of the Summary (the "**Building**"). The Building is part of an office-building project commonly known as "Sorrento Gateway." The term "**Project**," as used in this Lease, shall mean (i) the Building and the Common Areas, (ii) the land (which is improved with landscaping, parking facilities and other improvements) upon which the Building and the Common Areas are located, (iii) the other building located at 4955 Directors Place, San Diego (the "**4955 DP Building**"), which 495 DP Building is located adjacent to the Building and the land upon which such 4955 DP Building is located, and (iv) at Landlord's discretion, any additional real property, areas, land, buildings or other improvements added thereto outside of the Project. Landlord and Tenant hereby acknowledge that the 4955 DP Building is leased in its entirety to Tenant pursuant to that certain Lease by and between HCP LIFE SCIENCE REIT, INC., a Maryland corporation, an affiliate of Landlord (the "**Affiliate Landlord**") and Tenant, dated September 8, 2016 (the "**4955 DP Lease**").

1.1.3 **Common Areas**. Tenant shall have the non-exclusive right to use in common with other tenants in the Project, and subject to the rules and regulations referred to in Article 5 of this Lease, those portions of the Project which are provided, from time to time, for use in common by Landlord, Tenant and any other tenants of the Project (such areas, together with such other portions of the Project designated by Landlord, in its discretion, are collectively referred to herein as the "**Common Areas**"). The manner in which the Common Areas are maintained and operated shall be at the sole discretion of Landlord and the use thereof shall be subject to such rules, regulations and restrictions as Landlord may make from time to time. Landlord reserves the right to close temporarily, make alterations or additions to, or change the location of elements of the Project and the Common Areas. Notwithstanding the foregoing, Landlord and Tenant acknowledge that there are currently no Common Areas within the Building as Tenant is the only tenant within the Building as of the date of this Lease.

1.1.4 **Condition of Building Systems**. Notwithstanding anything set forth in Section 1.1.1, above, to the contrary, Landlord shall cause the "Building Systems," as that term is defined in Section 7, below, which serve the Premises to be in good working condition and repair upon the Lease Commencement Date. The foregoing shall

not be deemed to require Landlord to replace any of the Building Systems, as opposed to repair any Building Systems, unless and to the extent the repair of such Building Systems, or portion thereof, would not be commercially reasonable under the circumstances. In addition, Landlord hereby covenants that the Building Systems serving the Premises (the "**Warrantied Item**") shall remain in good working condition for a period of twelve (12) months following the Lease Commencement Date. Notwithstanding anything in this Lease to the contrary, Landlord shall, at Landlord's sole cost and expense (which shall not be deemed an "Operating Expense," as that term is defined in Article 4), repair or replace any portion of the Warrantied Item during such twelve (12) month period which is not in good working condition ("**Landlord's 12 Month Warranty**"), provided that (i) the need to repair or replace was not caused (A) by the misuse, misconduct, damage, destruction, omissions, and/or negligence of Tenant, its subtenants and/or assignees, if any, or any company which is acquired, sold or merged with Tenant (collectively, "**Tenant Damage**"), or (B) by any modifications, Alterations or improvements constructed by or on behalf of Tenant, and (ii) Landlord has reasonably approved Tenant's Building Systems vendors ("**Building Systems Vendors**") and corresponding maintenance operating plans ("**Maintenance Plans**") and such Building Systems Vendor conducts quarterly inspections in compliance with the Maintenance Plan. Landlord's 12 Month Warranty shall not extend to the costs of normal and customary preventive maintenance relating to the Warrantied Item. To the extent repairs which Landlord is required to make pursuant to this Section 1.1.4 are necessitated in part by Tenant Damage, then Tenant shall reimburse Landlord for an equitable proportion of the cost of such repair. If it is determined that the Warrantied Item was not in good working condition and repair as of the Lease Commencement Date, Landlord shall not be liable to Tenant for any damages, but, subject to Section 19.5.2, below, as Tenant's sole remedy, Landlord, at no cost to Tenant, shall promptly commence such work or take such other action as may be necessary to place the same in good working condition and repair, and shall thereafter diligently pursue the same to completion. The parties hereto acknowledge and agree that the terms of this Section 1.1.4 does not affect Landlord's obligations to repair and maintain the Building, including without limitation, the "Landlord Repair Obligation", pursuant to the express terms and conditions of Section 7.4 of this Lease.

1.2 **Rentable Square Feet of Premises**. The rentable square footage of the Premises is hereby deemed to be as set forth in Section 2.2 of the Summary, and shall not be subject to measurement or adjustment during the Lease Term.

1.3 **Right of First Offer.** If Landlord elects in its sole discretion to commence construction of a new building in the portion of the Project set forth on **Exhibit A-2**. attached hereto (a "**Landlord Spec Building**"), prior to Landlord having an agreed upon term sheet or binding lease agreement with a tenant to lease all or a portion of the Landlord Spec Building, then Landlord hereby grants to the originally named Tenant herein ("**Original Tenant**"), and any assignee of Original Tenant's entire interest in the Lease pursuant to the terms of Section 14.8, below (a "**Permitted Assignee**"), a one-time right of first offer with respect to any space becoming available in the Landlord Spec Building (the "**First Offer Space**"). Tenant's right of first offer shall be on the terms and conditions set forth in this Section 1.3.

1.3.1 **Procedure for Offer.** If Tenant's first of first offer is applicable pursuant to the terms of Section 1.3, above, then prior to leasing all or any portion of the First Offer Space to any third party, Landlord shall notify Tenant (a "**First Offer Notice**") when the First Offer Space or any portion thereof becomes available (or Landlord reasaonbly anticipates that it will become available) for lease to third parties. A First Offer Notice shall describe the space so offered to Tenant. The rentable square footage of the space so offered to Tenant shall be as set forth in the First Offer Notice.

1.3.2 **Procedure for Acceptance.** If Tenant wishes to exercise its right of first offer with respect to the space described in a First Offer Notice, then within ten (10) days of delivery of such First Offer Notice to Tenant ("**Offer Exercise Period**"), Tenant shall deliver notice to Landlord of Tenant's intention to exercise its right of first offer with respect to the entire space described in such First Offer Notice. If Tenant timely exercises its right of first offer as set forth herein, Landlord and Tenant shall, within five (5) business days after Landlord's receipt of Tenant's notice, meet and discuss the lease of the space described in such First Offer Notice from Landlord to Tenant (the "**First Offer Meeting**"). If Landlord and Tenant do not reach agreement as to the material economic terms of the lease of such space within five (5) business days after the First Offer Meeting (the "**First Offer Negotiation Period**"), then Tenant shall have the right to irrevocably exercise its option to lease the space described in the First Offer Notice but have the material economic terms of the lease of such space determined pursuant to the terms of Section 2.2.3 of this Lease, below, by delivering written notice of such exercise (the "**Irrevocable Exercise Notice**") to Landlord prior to

the expiration of the First Offer Negotiation Period. If Landlord and Tenant do not reach agreement as to the material economic terms of the lease of such space prior to the expiration of the First Offer Negotiation Period and Tenant fails to timely deliver an Irrevocable Exercise Notice, then Tenant will not be required to lease the First Offer Space and Landlord, in its sole and absolute discretion, shall have the right to terminate negotiations with Tenant and to lease the space described in the First Offer Notice to anyone whom Landlord desires on any terms which Landlord desires. Notwithstanding anything to the contrary contained herein, Tenant must elect to exercise its right of first offer, if at all, with respect to all of the space offered by Landlord to Tenant at any particular time, and Tenant may not elect to lease only a portion thereof. If Tenant does not exercise its right of first offer with respect to any space described in a First Offer Notice or if Tenant fails to respond to a First Offer Notice prior to the expiration of the Offer Exercise Period, then Tenant's right of first offer as set forth in this Section 1.3 shall terminate as to the space set forth in the First Offer Notice.

1.3.3 **First Offer Space Rent.** The annual "Rent," as that term is defined in Section 4.1 of this Lease, payable by Tenant for the First Offer Space (the "**First Offer Rent**") shall be equal to the Rent agreed between Landlord and Tenant, or, if Tenant timely delivers an Irrevocable Exercise Notice, then the "Fair Rental Value," as that term is defined in Section 2.2.2 of this Lease, for the First Offer Space, as of the "First Offer Commencement Date," as that term is defined in Section 1.3.5 of this Lease.

1.3.4 **Construction In First Offer Space.** Tenant shall accept the First Offer Space in its then existing "as is" condition. The construction of improvements in the First Offer Space shall comply with the terms of Article 8 of this Lease.

1.3.5 **Amendment to Lease.** If Tenant timely exercises Tenant's right to lease First Offer Space as set forth herein, then, within thirty (30) days thereafter, Landlord and Tenant shall execute an amendment to this Lease for such First Offer Space upon the terms and conditions as set forth in the First Offer Notice therefor and this Section 1.3; provided, however that if the First Offer Rent has not been determined at the time the parties enter into such lease amendment, then Tenant shall pay rent for the First Offer Space in accordance with the terms of Section 2.2.3.8 below. Notwithstanding the foregoing, the failure of Landlord and Tenant to execute and deliver such First Offer Space amendment shall not affect an otherwise valid exercise of Tenant's first offer rights or the parties' rights and responsibilities in respect thereof. Tenant shall commence payment of Rent for such First Offer Space, and the term of such First Offer Space shall commence, upon the date of delivery of such First Offer Space to Tenant (the "**First Offer Commencement Date**") and terminate on the date set forth in the First Offer Notice therefor.

1.3.6 **Termination of Right of First Offer.** The rights contained in this Section 1.3 shall be personal to Original Tenant and any Permitted Assignee, and may only be exercised by Original Tenant or a Permitted Assignee (and not by any other assignee, sublessee or "Transferee," as that term is defined in Section 14.1 of this Lease, of Tenant's interest in this Lease) if Original Tenant or Permitted Assignee, as applicable, occupies not less than seventy-five percent (75%) of the Premises. Tenant shall not have the right to lease First Offer Space, as provided in this Section 1.3, if, as of the date of the attempted exercise of any right of first offer by Tenant, or as of the scheduled date of delivery of such First Offer Space to Tenant, Tenant is in default under this Lease or Tenant has previously been in default under this Lease more than twice during the immediately preceding twelve (12) month period.

2. LEASE TERM; OPTION TERM

2.1 **Lease Term**. The terms and provisions of this Lease shall be effective as of the date of this Lease. The term of this Lease (the "**Lease Term**") shall be as set forth in Section 3.1 of the Summary, shall commence on the date set forth in Section 3.2 of the Summary (the "**Lease Commencement Date**"), and shall terminate on the date set forth in Section 3.3 of the Summary (the "**Lease Expiration Date**") unless this Lease is sooner terminated as hereinafter provided. For purposes of this Lease, the term "**Lease Month**" shall mean each monthly period during the Lease Term; provided that the first (1st) Lease Month of the Lease Term shall commence on the Lease Commencement Date and end on the last day of the first (1st) full calendar month of the Lease Term, and the last Lease Month shall end on the Lease Expiration Date; and provided further that, if applicable, the first (1st) Lease Month of the Option Term shall commence on the first (1st) day of the Option Term and end on the last day of the first (1st) full calendar month of the Option Term, and the last Lease Month of the Option Term shall end on the last day of the Option Term. At any time during the Lease Term, Landlord may deliver to Tenant a notice in the form as set forth in **Exhibit C**, attached hereto,

as a confirmation only of the information set forth therein, which Tenant shall execute and return to Landlord within five (5) days of receipt thereof.

2.2 **Option Term**.

2.2.1 **Option Right**. Landlord hereby grants the Original Tenant, and any Permitted Assignee, one (1) option to extend the Lease Term for a period of five (5) years (the "**Option Term**"). Such option to extend shall be exercisable only by written notice delivered by Tenant to Landlord not more than fifteen (15) months nor less than twelve (12) months prior to the expiration of the initial Lease Term, stating that Tenant is thereby irrevocably exercising its option to lease the Premises during the Option Term. Upon the proper exercise of the option to extend, and provided that, at Landlord's option, as of the date of delivery of such notice, Tenant is not in default under this Lease and has not previously been in default under this Lease more than twice during the preceding twelve (12) month period, and as of the end of the initial Lease Term, Tenant is not in default under this Lease, the Lease Term shall be extended for a period of five (5) years. The rights contained in this Section 2.2 shall be personal to Original Tenant and any Permitted Assignee (and not any other assignee, sublessee or "Transferee," as that term is defined in Section 14.1, below, of Tenant's interest in this Lease).

2.2.2 **Option Rent**. The annual Rent payable by Tenant during the Option Term (the "**Option Rent**") shall be equal to (i) the "Fair Rental Value," as that term is defined below, for the Premises as of the commencement date of the Option Term for the first year of the Option Term (i.e., November 1, 2029 – October 31, 2030), and (ii) one hundred three percent (103%) of the prior year's Option Rent for each subsequent year of the Option Term. The "**Fair Rental Value**," as used in this Lease, shall be equal to the annual rent per rentable square foot (including additional rent and considering any "base year" or "expense stop" applicable thereto), including all escalations, at which tenants (pursuant to leases consummated within the twelve (12) month period preceding the first day of the Option Term), are leasing non-sublease, non-encumbered, non-equity space which is not significantly greater or smaller in size than the subject space, for a comparable lease term, in an arm's length transaction, which comparable space is located in the "Comparable Buildings," as that term is defined in this Section 2.2.2, below (transactions satisfying the foregoing criteria shall be known as the "**Comparable Transactions**"), taking into consideration the following concessions (the "**Concessions**"): (a) rental abatement concessions, if any, being granted such tenants in connection with such comparable space; (b) tenant improvements or allowances provided or to be provided for such comparable space, and taking into account the value, if any, of the existing improvements in the subject space, such value to be based upon the age, condition, design, quality of finishes and layout of the improvements; and (c) other reasonable monetary concessions being granted such tenants in connection with such comparable space; provided, however, that in calculating the Fair Rental Value, no consideration shall be given to any period of rental abatement, if any, granted to tenants in comparable transactions in connection with the design, permitting and construction of tenant improvements in such comparable spaces. The Fair Rental Value shall additionally include a determination as to whether, and if so to what extent, Tenant must provide Landlord with financial security, such as a letter of credit or guaranty, for Tenant's Rent obligations in connection with Tenant's lease of the Premises during the Option Term. Such determination shall be made by reviewing the extent of financial security then generally being imposed in Comparable Transactions from tenants of comparable financial condition and credit history to the then existing financial condition and credit history of Tenant (with appropriate adjustments to account for differences in the then-existing financial condition of Tenant and such other tenants). The Concessions (A) shall be reflected in the effective rental rate (which effective rental rate shall take into consideration the total dollar value of such Concessions as amortized on a straight-line basis over the applicable term of the Comparable Transaction (in which case such Concessions evidenced in the effective rental rate shall not be granted to Tenant)) payable by Tenant, or (B) at Landlord's election, all such Concessions shall be granted to Tenant in kind. The term "**Comparable Buildings**" shall mean those first-class laboratory and R&D buildings located in the Sorrento Mesa Area of San Diego, California that are comparable in age (based on the date of original construction or the latest major renovation) location, quality of construction, services and amenities.

2.2.3 **Determination of Option Rent**. In the event Tenant timely and appropriately exercises an option to extend the Lease Term, Landlord shall notify Tenant of Landlord's determination of the Option Rent on or before the Lease Expiration Date. If Tenant, on or before the date which is thirty (30) days following the date upon which Tenant receives Landlord's determination of the Option Rent, in good faith objects to Landlord's determination of the Option Rent, then Landlord and Tenant shall attempt to agree upon the Option Rent using their best good-faith

efforts. If Landlord and Tenant fail to reach agreement within thirty (30) days following Tenant's objection to the Option Rent (the "**Outside Agreement Date**"), or if Tenant timely delivers an Irrevocable Exercise Notice to Landlord pursuant to the terms of Section 1.3.2, above, then each party shall make a separate determination of the Option Rent (or First Offer Rent, as the case may be), within five (5) days, and such determinations shall be submitted to arbitration in accordance with Sections 2.2.3.1 through 2.2.3.7, below. If Tenant fails to object to Landlord's determination of the Option Rent within the time period set forth herein, then Tenant shall be deemed to have accepted Landlord's determination of Option Rent.

2.2.3.1 Landlord and Tenant shall each appoint one arbitrator who shall be, at the option of the appointing party, a real estate broker, appraiser or attorney who shall have been active over the five (5) year period ending on the date of such appointment in the leasing or appraisal, as the case may be, of commercial office properties in North San Diego, California. The determination of the arbitrators shall be limited solely to the issue of whether Landlord's or Tenant's submitted Option Rent (or First Offer Rent, as the case may be) is the closest to the actual Option Rent (or First Offer Rent, as the case may be), taking into account the requirements of Section 2.2.2 of this Lease, as determined by the arbitrators. Each such arbitrator shall be appointed within fifteen (15) days after the Outside Agreement Date. Landlord and Tenant may consult with their selected arbitrators prior to appointment and may select an arbitrator who is favorable to their respective positions. The arbitrators so selected by Landlord and Tenant shall be deemed "**Advocate Arbitrators**."

2.2.3.2 The two (2) Advocate Arbitrators so appointed shall be specifically required pursuant to an engagement letter within ten (10) days of the date of the appointment of the last appointed Advocate Arbitrator to agree upon and appoint a third arbitrator ("**Neutral Arbitrator**") who shall be qualified under the same criteria set forth hereinabove for qualification of the two Advocate Arbitrators, except that neither the Landlord or Tenant or either parties' Advocate Arbitrator may, directly or indirectly, consult with the Neutral Arbitrator prior or subsequent to his or her appearance. The Neutral Arbitrator shall be retained via an engagement letter jointly prepared by Landlord's counsel and Tenant’s counsel.

2.2.3.3 The three arbitrators shall, within thirty (30) days of the appointment of the Neutral Arbitrator, reach a decision as to whether the parties shall use Landlord's or Tenant's submitted Option Rent (or First Offer Rent, as the case may be), and shall notify Landlord and Tenant thereof.

2.2.3.4 The decision of the majority of the three arbitrators shall be binding upon Landlord and Tenant.

2.2.3.5 If either Landlord or Tenant fails to appoint an Advocate Arbitrator within fifteen (15) days after the Outside Agreement Date, then either party may petition the presiding judge of the Superior Court of San Diego County to appoint such Advocate Arbitrator subject to the criteria in Section 2.2.3.1 of this Lease, or if he or she refuses to act, either party may petition any judge having jurisdiction over the parties to appoint such Advocate Arbitrator.

2.2.3.6 If the two (2) Advocate Arbitrators fail to agree upon and appoint the Neutral Arbitrator, then either party may petition the presiding judge of the Superior Court of San Diego County to appoint the Neutral Arbitrator, subject to criteria in Section 2.2.3.2 of this Lease, or if he or she refuses to act, either party may petition any judge having jurisdiction over the parties to appoint such arbitrator.

2.2.3.7 The cost of the arbitration shall be paid by Landlord and Tenant equally.

2.2.3.8 In the event that the Option Rent (or First Offer Rent, as the case may be) shall not have been determined pursuant to the terms hereof prior to the commencement of the Option Term (or the First Offer Commencement Date, as the case may be), Tenant shall be required to pay the Option Rent (or First Offer Rent, as the case may be) initially provided by Landlord to Tenant, and upon the final determination of the Option Rent (or First Offer Rent, as the case may be), the payments made by Tenant shall be reconciled with the actual amounts of Option Rent (or First Offer Rent, as the case may be) due, and the appropriate party shall make any corresponding payment to the other party.

2.3 **Beneficial Occupancy**. Tenant shall have the right to occupy the Premises (or certain portions of the Premises) to conduct its business prior to the Lease Commencement Date, provided that (A) Tenant shall give Landlord at least ten (10) days' prior notice of any such occupancy of the Premises, (B) a temporary certificate of occupancy, or its legal equivalent allowing legal occupancy of the Premises, shall have been issued by the appropriate governmental authorities for each such portion to be occupied, and (C) all of the terms and conditions of the Lease shall apply, other than Tenant's obligation to pay "Base Rent" (as that term is defined in Article 3 below) as though the Lease Commencement Date had occurred (although the Lease Commencement Date shall not actually occur until the occurrence of the same pursuant to the terms of the second sentence of Section 2.1, above) upon such occupancy of a portion of the Premises by Tenant. If, and only if, Tenant is, in fact, occupying the Premises (and not merely performing improvements, fixturizing, testing or moving into the Premises), then Tenant shall be required to pay any direct charges (such as utilities), and "Tenant's Share" of the annual "Direct Expenses" (as those terms are defined in Article 4 , below).

3. BASE RENT

3.1 **In General.** Tenant shall pay, without prior notice or demand, to Landlord or Landlord's agent at the management office of the Project, or, at Landlord's option, at such other place as Landlord may from time to time designate in writing, by a check for currency which, at the time of payment, is legal tender for private or public debts in the United States of America, base rent ("**Base Rent**") as set forth in Section 4 of the Summary, payable in equal monthly installments as set forth in Section 4 of the Summary in advance on or before the first day of each and every calendar month during the Lease Term, without any setoff or deduction whatsoever. The Base Rent and the estimated "Tenant's Share" of "Direct Expenses," as those terms are defined in Article 4, below, for the first full month of the Lease Term shall be paid at the time of Tenant's execution of this Lease. If any Rent payment date (including the Lease Commencement Date) falls on a day of the month other than the first day of such month or if any payment of Rent is for a period which is shorter than one month, the Rent for any fractional month shall accrue on a daily basis for the period from the date such payment is due to the end of such calendar month or to the end of the Lease Term at a rate per day which is equal to 1/365 of the applicable annual Rent. All other payments or adjustments required to be made under the terms of this Lease that require proration on a time basis shall be prorated on the same basis.

3.2 **Abated Base Rent**. Notwithstanding any provision to the contrary contained in Section 3.1 above, provided that Tenant is not in default under this Lease, Tenant shall be entitled to an abatement (the "**Base Rent Abatement**") of one hundred percent (100%) of the Base Rent otherwise due for the Premises during the second (2^{nd}), third (3^{rd}), fourth (4^{th}), fifth (5^{th}), sixth (6^{th}), seventh (7^{th}) and eighth (8^{th}) full calendar months of the Lease Term (collectively, the "**Base Rent Abatement Period**"), for a total Base Rent Abatement amount equal to $1,520,993.95 in the aggregate. Tenant acknowledges and agrees that during such Base Rent Abatement Period, such abatement of Base Rent shall have no effect on the calculation of any Direct Expenses payable by Tenant pursuant to the terms of this Lease, which Direct Expenses shall be payable during the Base Rent Abatement Period without regard to the Base Rent Abatement. The Base Rent Abatement right set forth in this Section 3.2 has been granted to Tenant as additional consideration for Tenant’s agreement to enter into this Lease and comply with the terms and conditions otherwise required under this Lease. If Tenant shall be in default under this Lease, or if this Lease is terminated for any reason other than Landlord's breach of this Lease, then the dollar amount of the unapplied portion of the Base Rent Abatement as of the date of such default or termination, as the case may be, shall be converted to a credit to be applied to the Base Rent applicable at the end of the Lease Term and Tenant shall immediately be obligated to begin paying Base Rent for the Premises in full.

4. ADDITIONAL RENT

4.1 **General Terms**.

4.1.1 **Direct Expenses; Additional Rent**. In addition to paying the Base Rent specified in Article 3 of this Lease, Tenant shall pay "**Tenant's Share**" of the annual "**Direct Expenses**," as those terms are defined in Sections 4.2.6 and 4.2.2 of this Lease, respectively. Such payments by Tenant, together with any and all other amounts payable by Tenant to Landlord pursuant to the terms of this Lease, are hereinafter collectively referred to as the "**Additional Rent**", and the Base Rent and the Additional Rent are herein collectively referred to as "**Rent**." All amounts due under this Article 4 as Additional Rent shall be payable for the same periods and in the same manner as the Base

Rent. Without limitation on other obligations of Tenant which survive the expiration of the Lease Term, the obligations of Tenant to pay the Additional Rent provided for in this Article 4 shall survive the expiration of the Lease Term.

4.1.2 **Triple Net Lease**. Landlord and Tenant acknowledge that, except as otherwise provided to the contrary in this Lease, it is their intent and agreement that this Lease be a "**TRIPLE NET**" lease and that as such, the provisions contained in this Lease are intended to pass on to Tenant or reimburse Landlord for the costs and expenses reasonably associated with this Lease, the Building and the Project, and Tenant's operation therefrom. To the extent such costs and expenses payable by Tenant cannot be charged directly to, and paid by, Tenant, such costs and expenses shall be paid by Landlord but reimbursed by Tenant as Additional Rent.

4.2 **Definitions of Key Terms Relating to Additional Rent**. As used in this Article 4, the following terms shall have the meanings hereinafter set forth:

4.2.1 Intentionally Deleted.

4.2.2 "**Direct Expenses**" shall mean "**Operating Expenses**" and "**Tax Expenses**."

4.2.3 "**Expense Year**" shall mean each calendar year in which any portion of the Lease Term falls, through and including the calendar year in which the Lease Term expires, provided that Landlord, upon notice to Tenant, may change the Expense Year from time to time to any other twelve (12) consecutive month period, and, in the event of any such change, Tenant's Share of Direct Expenses shall be equitably adjusted for any Expense Year involved in any such change.

4.2.4 "**Operating Expenses**" shall mean all expenses, costs and amounts of every kind and nature which Landlord pays or accrues during any Expense Year because of or in connection with the ownership, management, maintenance, security, repair, replacement, restoration or operation of the Project, or any portion thereof. Without limiting the generality of the foregoing, Operating Expenses shall specifically include any and all of the following: (i) the cost of supplying all utilities, the cost of operating, repairing, maintaining, and renovating the utility, telephone, mechanical, sanitary, storm drainage, and elevator systems, and the cost of maintenance and service contracts in connection therewith; (ii) the cost of licenses, certificates, permits and inspections and the cost of contesting any governmental enactments which may affect Operating Expenses, and the costs incurred in connection with a governmentally mandated transportation system management program or similar program; (iii) the cost of all insurance carried by Landlord in connection with the Project and Premises as reasonably determined by Landlord; (iv) the cost of landscaping, relamping, and all supplies, tools, equipment and materials used in the operation, repair and maintenance of the Project, or any portion thereof; (v) the cost of parking area operation, repair, restoration, and maintenance; (vi) fees and other costs, including management and/or incentive fees, consulting fees, legal fees and accounting fees, of all contractors and consultants in connection with the management, operation, maintenance and repair of the Project; (vii) payments under any equipment rental agreements and the fair rental value of any management office space; (viii) subject to item (f), below, wages, salaries and other compensation and benefits, including taxes levied thereon, of all persons engaged in the operation, maintenance and security of the Project; (ix) costs under any instrument pertaining to the sharing of costs by the Project; (x) operation, repair, maintenance and replacement of all systems and equipment and components thereof of the Project; (xi) the cost of janitorial, alarm, security and other services, replacement of wall and floor coverings, ceiling tiles and fixtures in common areas, maintenance and replacement of curbs and walkways, repair to roofs and re-roofing; (xii) amortization (including interest on the unamortized cost) over the reasonable useful life of such item as Landlord shall reasonably determine in accordance with sound real estate management and accounting principles, consistently applied, of the cost of acquiring or the rental expense of personal property used in the maintenance, operation and repair of the Project, or any portion thereof; (xiii) the cost of capital improvements or other costs incurred in connection with the Project (A) which are intended to effect economies in the operation or maintenance of the Project, or any portion thereof, or to reduce current or future Operating Expenses or to enhance the safety or security of the Project or its occupants, (B) that are required to comply with present or anticipated conservation programs, (C) which are replacements or modifications of nonstructural items located in the Common Areas required to keep the Common Areas in good order or condition, or (D) that are required under any governmental law or regulation; provided, however, that any capital expenditure shall be amortized (including interest on the amortized cost) over its reasonable useful life as Landlord shall reasonably determine in accordance with sound real estate

management and accounting principles, consistently applied; and (xiv) costs, fees, charges or assessments imposed by, or resulting from any mandate imposed on Landlord by, any federal, state or local government for fire and police protection, trash removal, community services, or other services which do not constitute "Tax Expenses" as that term is defined in Section 4.2.5, below, (xv) cost of tenant relation programs reasonably established by Landlord, and (xvi) payments under any easement, license, operating agreement, declaration, restrictive covenant, or instrument pertaining to the sharing of costs by the Building, including, without limitation, any covenants, conditions and restrictions affecting the property, and reciprocal easement agreements affecting the property, any parking licenses, and any agreements with transit agencies affecting the Property (collectively, "**Underlying Documents**"). Notwithstanding the foregoing, for purposes of this Lease, Operating Expenses shall not, however, include:

(a) costs, including legal fees, space planners' fees, advertising and promotional expenses (except as otherwise set forth above), and brokerage fees incurred in connection with the original construction or development, or original or future leasing of the Project, and costs, including permit, license and inspection costs, incurred with respect to the installation of tenant improvements made for new tenants initially occupying space in the Project after the Lease Commencement Date or incurred in renovating or otherwise improving, decorating, painting or redecorating vacant space for tenants or other occupants of the Project (excluding, however, such costs relating to any common areas of the Project or parking facilities);

(b) except as set forth in items (xii), (xiii), and (xiv) above, depreciation, interest and principal payments on mortgages and other debt costs, if any, penalties and interest;

(c) costs for which the Landlord is reimbursed by any tenant or occupant of the Project or by insurance by its carrier or any tenant's carrier or by anyone else, and electric power costs for which any tenant directly contracts with the local public service company;

(d) any bad debt loss, rent loss, or reserves for bad debts or rent loss;

(e) costs associated with the operation of the business of the partnership or entity which constitutes the Landlord, as the same are distinguished from the costs of operation of the Project (which shall specifically include, but not be limited to, accounting costs associated with the operation of the Project). Costs associated with the operation of the business of the partnership or entity which constitutes the Landlord include costs of partnership accounting and legal matters, costs of defending any lawsuits with any mortgagee (except as the actions of the Tenant may be in issue), costs of selling, syndicating, financing, mortgaging or hypothecating any of the Landlord's interest in the Project, and costs incurred in connection with any disputes between Landlord and its employees, between Landlord and Project management, or between Landlord and other tenants or occupants;

(f) the wages and benefits of any employee who does not devote substantially all of his or her employed time to the Project unless such wages and benefits are prorated to reflect time spent on operating and managing the Project vis-a-vis time spent on matters unrelated to operating and managing the Project; provided, that in no event shall Operating Expenses for purposes of this Lease include wages and/or benefits attributable to personnel above the level of Project manager;

(g) amount paid as ground rental for the Project by the Landlord;

(h) except for a Project management fee to the extent allowed pursuant to item (l) below, overhead and profit increment paid to the Landlord or to subsidiaries or affiliates of the Landlord for services in the Project to the extent the same exceeds the costs of such services rendered by qualified, first-class unaffiliated third parties on a competitive basis;

(i) any compensation paid to clerks, attendants or other persons in commercial concessions operated by the Landlord, provided that any compensation paid to any concierge at the Project shall be includable as an Operating Expense;

(j) rentals and other related expenses incurred in leasing air conditioning systems, elevators or other equipment which if purchased the cost of which would be excluded from Operating Expenses as a capital cost, except equipment not affixed to the Project which is used in providing engineering, janitorial or similar services and, further excepting from this exclusion such equipment rented or leased to remedy or ameliorate an emergency condition in the Project;

(k) all items and services for which Tenant or any other tenant in the Project reimburses Landlord or which Landlord provides selectively to one or more tenants (other than Tenant) without reimbursement;

(l) any costs expressly excluded from Operating Expenses elsewhere in this Lease;

(m) rent for any office space occupied by Project management personnel to the extent the size or rental rate of such office space exceeds the size or fair market rental value of office space occupied by management personnel of the comparable buildings in the vicinity of the Building, with adjustment where appropriate for the size of the applicable project;

(n) personal injury or property damage costs arising from the negligence or willful misconduct of Landlord in connection with this Lease; and

(o) costs incurred to comply with laws relating to the removal of hazardous material (as defined under applicable law) which was in existence in the Building or on the Project prior to the Lease Commencement Date, and was of such a nature that a federal, State or municipal governmental authority, if it had then had knowledge of the presence of such hazardous material, in the state, and under the conditions that it then existed in the Building or on the Project, would have then required the removal of such hazardous material or other remedial or containment action with respect thereto; and costs incurred to remove, remedy, contain, or treat hazardous material, which hazardous material is brought into the Building or onto the Project after the date hereof by Landlord or any other tenant of the Project and is of such a nature, at that time, that a federal, State or municipal governmental authority, if it had then had knowledge of the presence of such hazardous material, in the state, and under the conditions, that it then exists in the Building or on the Project, would have then required the removal of such hazardous material or other remedial or containment action with respect thereto.

4.2.5 **Taxes**.

4.2.5.1 "**Tax Expenses**" shall mean all federal, state, county, or local governmental or municipal taxes, fees, charges or other impositions of every kind and nature, whether general, special, ordinary or extraordinary (including, without limitation, real estate taxes, general and special assessments, transit taxes, leasehold taxes or taxes based upon the receipt of rent, including gross receipts or sales taxes applicable to the receipt of rent, unless required to be paid by Tenant, personal property taxes imposed upon the fixtures, machinery, equipment, apparatus, systems and equipment, appurtenances, furniture and other personal property used in connection with the Project, or any portion thereof), which shall be paid or accrued during any Expense Year (without regard to any different fiscal year used by such governmental or municipal authority) because of or in connection with the ownership, leasing and operation of the Project, or any portion thereof.

4.2.5.2 Tax Expenses shall include, without limitation: (i) Any tax on the rent, right to rent or other income from the Project, or any portion thereof, or as against the business of leasing the Project, or any portion thereof; (ii) Any assessment, tax, fee, levy or charge in addition to, or in substitution, partially or totally, of any assessment, tax, fee, levy or charge previously included within the definition of real property tax; (iii) Any assessment, tax, fee, levy, or charge allocable to or measured by the area of the Premises or the Rent payable hereunder, including, without limitation, any business or gross income tax or excise tax with respect to the receipt of such rent, or upon or with respect to the possession, leasing, operating, management, maintenance, alteration, repair, use or occupancy by Tenant of the Premises, or any portion thereof; and (iv) Any assessment, tax, fee, levy or charge, upon this transaction

or any document to which Tenant is a party, creating or transferring an interest or an estate in the Premises or the improvements thereon.

4.2.5.3 Any costs and expenses (including, without limitation, reasonable attorneys' and consultants' fees) incurred in attempting to protest, reduce or minimize Tax Expenses shall be included in Tax Expenses in the Expense Year such expenses are incurred. Tax refunds shall be credited against Tax Expenses and refunded to Tenant regardless of when received, based on the Expense Year to which the refund is applicable, provided that in no event shall the amount to be refunded to Tenant for any such Expense Year exceed the total amount paid by Tenant as Additional Rent under this Article 4 for such Expense Year. If Tax Expenses for any period during the Lease Term or any extension thereof are increased after payment thereof for any reason, including, without limitation, error or reassessment by applicable governmental or municipal authorities, Tenant shall pay Landlord upon demand Tenant's Share of any such increased Tax Expenses. Notwithstanding anything to the contrary contained in this Section 4.2.5, there shall be excluded from Tax Expenses (i) all excess profits taxes, franchise taxes, gift taxes, capital stock taxes, inheritance and succession taxes, estate taxes, federal and state income taxes, and other taxes to the extent applicable to Landlord's net income (as opposed to rents, receipts or income attributable to operations at the Project), (ii) any items included as Operating Expenses, and (iii) any items paid by Tenant under Section 4.5 of this Lease.

4.2.6 "**Tenant's Share**" shall mean the percentage set forth in Section 6 of the Summary.

4.3 **Allocation of Direct Expenses**. The parties acknowledge that the Building is part of a multi-building project and that the costs and expenses incurred in connection with the Project (i.e., the Direct Expenses) should be shared between the Building and the other buildings in the Project. Accordingly, as set forth in Section 4.2 above, Direct Expenses (which consist of Operating Expenses and Tax Expenses) are determined annually for the Project as a whole, and a portion of the Direct Expenses, which portion shall be determined by Landlord on an equitable basis, shall be allocated to the Building (as opposed to other buildings in the Project). Such portion of Direct Expenses allocated to the Building shall include all Direct Expenses attributable solely to the Building and an equitable portion of the Direct Expenses attributable to the Project as a whole, and shall not include Direct Expenses attributable solely to other buildings in the Project.

4.4 **Calculation and Payment of Additional Rent**. Tenant shall pay to Landlord, in the manner set forth in Section 4.4.1, below, and as Additional Rent, Tenant's Share of Direct Expenses for each Expense Year.

4.4.1 **Statement of Actual Direct Expenses and Payment by Tenant**. Landlord shall use commercially reasonable efforts to give to Tenant within one hundred twenty (120) days following the end of each Expense Year, a statement (the "**Statement**") which shall state the Direct Expenses incurred or accrued for such preceding Expense Year, and which shall indicate the amount of Tenant's Share of Direct Expenses. Upon receipt of the Statement for each Expense Year commencing or ending during the Lease Term, Tenant shall pay, with its next installment of Base Rent due, the full amount of Tenant's Share of Direct Expenses for such Expense Year, less the amounts, if any, paid during such Expense Year as "**Estimated Direct Expenses**," as that term is defined in Section 4.4.2, below, and if Tenant paid more as Estimated Direct Expenses than the actual Tenant's Share of Direct Expenses, Tenant shall receive a credit in the amount of Tenant's overpayment against Rent next due under this Lease. The failure of Landlord to timely furnish the Statement for any Expense Year shall not prejudice Landlord or Tenant from enforcing its rights under this Article 4. Even though the Lease Term has expired and Tenant has vacated the Premises, when the final determination is made of Tenant's Share of Direct Expenses for the Expense Year in which this Lease terminates, Tenant shall immediately pay to Landlord such amount, and if Tenant paid more as Estimated Direct Expenses than the actual Tenant's Share of Direct Expenses, Landlord shall, within thirty (30) days, deliver a check payable to Tenant in the amount of the overpayment. The provisions of this Section 4.4.1 shall survive the expiration or earlier termination of the Lease Term.

4.4.2 **Statement of Estimated Direct Expenses**. In addition, Landlord shall use commercially reasonable efforts to give to Tenant within one hundred twenty (120) days following the end of each Expense Year a yearly expense estimate statement (the "**Estimate Statement**") which shall set forth Landlord's reasonable estimate (the "**Estimate**") of what the total amount of Direct Expenses for the then-current Expense Year shall be and the estimated Tenant's Share of Direct Expenses (the "**Estimated Direct Expenses**"). The failure of Landlord to timely

furnish the Estimate Statement for any Expense Year shall not preclude Landlord from enforcing its rights to collect any Estimated Direct Expenses under this Article 4, nor shall Landlord be prohibited from revising any Estimate Statement or Estimated Direct Expenses theretofore delivered to the extent necessary. Thereafter, Tenant shall pay, with its next installment of Base Rent due, a fraction of the Estimated Direct Expenses for the then-current Expense Year (reduced by any amounts paid pursuant to the last sentence of this Section 4.4.2). Such fraction shall have as its numerator the number of months which have elapsed in such current Expense Year, including the month of such payment, and twelve (12) as its denominator. Until a new Estimate Statement is furnished (which Landlord shall have the right to deliver to Tenant at any time), Tenant shall pay monthly, with the monthly Base Rent installments, an amount equal to one-twelfth (1/12) of the total Estimated Direct Expenses set forth in the previous Estimate Statement delivered by Landlord to Tenant.

4.5 **Taxes and Other Charges for Which Tenant Is Directly Responsible**. Tenant shall be liable for and shall pay ten (10) days before delinquency, taxes levied against Tenant's equipment, furniture, fixtures and any other personal property located in or about the Premises. If any such taxes on Tenant's equipment, furniture, fixtures and any other personal property are levied against Landlord or Landlord's property or if the assessed value of Landlord's property is increased by the inclusion therein of a value placed upon such equipment, furniture, fixtures or any other personal property and if Landlord pays the taxes based upon such increased assessment, which Landlord shall have the right to do regardless of the validity thereof but only under proper protest if requested by Tenant, Tenant shall upon demand repay to Landlord the taxes so levied against Landlord or the proportion of such taxes resulting from such increase in the assessment, as the case may be.

4.6 **Audit of Direct Expenses**. Upon Tenant's written request (an "**Audit Request**") given not more than sixty (60) days after Tenant's receipt of a Statement for a particular Expense Year, and provided that Tenant is not then in default under this Lease, Landlord shall furnish Tenant with such reasonable supporting documentation in connection with said Direct Expenses. Landlord shall provide said information to Tenant within sixty (60) days after Tenant's written request therefor. Within sixty (60) days after receipt of such information by Tenant (the "**Review Period**"), if Tenant disputes the amount of Direct Expenses set forth in the Statement, an independent certified public accountant (which accountant (A) is a certified public accountant, (B) is a member of a nationally recognized accounting firm, (C) is not working on a contingency fee basis, and (D) is reasonably acceptable to, and approved by Landlord (which approval shall not be unreasonably withheld or delayed)), designated and paid for by Tenant, may, after reasonable notice to Landlord and at reasonable times, inspect Landlord's records with respect to the Statement at Landlord's offices, provided that Tenant is not then in default under this Lease and Tenant has paid all amounts required to be paid under the applicable Estimate Statement and Statement, as the case may be. In connection with such inspection, Tenant and Tenant's agents must agree in advance to follow Landlord's reasonable rules and procedures regarding inspections of Landlord's records, and shall execute a commercially reasonable confidentiality agreement regarding such inspection. Tenant's failure to dispute the amount of Direct Expenses set forth in any Statement within the Review Period shall be deemed to be Tenant's approval of such Statement and Tenant, thereafter, waives the right or ability to dispute the amounts set forth in such Statement. If after such inspection, Tenant still disputes such Additional Rent, a determination as to the proper amount shall be made, at Tenant's expense, by an independent certified public accountant (the "**Accountant**") selected by Landlord and subject to Tenant's reasonable approval; provided that if such determination by the Accountant proves that Direct Expenses were overstated by more than five percent (5%), then the cost of the Accountant and the cost of such determination shall be paid for by Landlord with interest at the "Default Rate," as that term is defined in Article 25, below. If the parties agree or the Accountant determines that Tenant's payments of Direct Expenses for such calendar year were in excess of the actual Direct Expenses for such calendar year, then Landlord shall, at Landlord's option, either (a) credit such excess to Tenant's next succeeding installment(s) of Estimated Direct Expenses until such excess has been exhausted, or (b) deliver a check payable to Tenant in the amount of such excess within thirty (30) days after such agreement or determination. If the parties agree or the Accountant determines that Tenant's payments of Direct Expenses for such calendar year were less than the actual Direct Expenses, then Tenant shall pay the deficiency to Landlord within thirty (30) days after such agreement or determination. Tenant hereby acknowledges that Tenant's sole right to inspect Landlord's books and records and to contest the amount of Direct Expenses payable by Tenant shall be as set forth in this Section 4.6, and Tenant hereby waives any and all other rights pursuant to applicable law to inspect such books and records and/or to contest the amount of Direct Expenses payable by Tenant.

5. USE OF PREMISES

5.1 **Permitted Use**. Tenant shall use the Premises solely for the Permitted Use set forth in Section 7 of the Summary and Tenant shall not use or permit the Premises or the Project to be used for any other purpose or purposes whatsoever without the prior written consent of Landlord, which may be withheld in Landlord's sole discretion.

5.2 **Prohibited Uses**. Tenant further covenants and agrees that Tenant shall not use, or suffer or permit any person or persons to use, the Premises or any part thereof for any use or purpose in violation of the laws of the United States of America, the State of California, or the ordinances, regulations or requirements of the local municipal or county governing body or other lawful authorities having jurisdiction over the Project) including, without limitation, any such laws, ordinances, regulations or requirements relating to hazardous materials or substances, as those terms are defined by applicable laws now or hereafter in effect, or any Underlying Documents. Landlord shall have the right to impose reasonable and customary rule and regulations (which shall be enforced by Landlord in a non-discriminatory manner) regarding the use of the Project, as reasonably deemed necessary by Landlord with respect to the orderly operation of the Project, and Tenant shall comply with such reasonable rules and regulations. Tenant shall not do or permit anything to be done in or about the Premises which will in any way damage the reputation of the Project or obstruct or interfere with the rights of other tenants or occupants of the Building, or injure or annoy them or use or allow the Premises to be used for any improper, unlawful or objectionable purpose, nor shall Tenant cause, maintain or permit any nuisance in, on or about the Premises. Tenant shall comply with, and Tenant's rights and obligations under the Lease and Tenant's use of the Premises shall be subject and subordinate to, all recorded easements, covenants, conditions, and restrictions now or hereafter affecting the Project; provided, however, no Underlying Documents or any documents referenced in this sentence recorded or otherwise enacted by Landlord after the date of this Lease will materially increase Tenant’s monetary obligations or decrease Tenant’s rights pursuant to this Lease.

5.3 **Hazardous Materials**.

5.3.1 **Tenant's Obligations**.

5.3.1.1 **Prohibitions**. As a material inducement to Landlord to enter into this Lease with Tenant, Tenant has fully and accurately completed Landlord’s Pre-Leasing Environmental Exposure Questionnaire (the “**Environmental Questionnaire**”), which is attached as **Exhibit F**. Tenant agrees that except for those chemicals or materials, and their respective quantities, specifically listed on the Environmental Questionnaire, neither Tenant nor Tenant’s employees, contractors and subcontractors of any tier, entities with a contractual relationship with Tenant (other than Landlord), or any entity acting as an agent or sub-agent of Tenant (collectively, "**Tenant's Agents**") will produce, use, store or generate any "Hazardous Materials," as that term is defined below, on, under or about the Premises, nor cause or permit any Hazardous Material to be brought upon, placed, stored, manufactured, generated, blended, handled, recycled, used or "Released," as that term is defined below, on, in, under or about the Premises. If any information provided to Landlord by Tenant on the Environmental Questionnaire, or otherwise relating to information concerning Hazardous Materials is false, incomplete, or misleading in any material respect, the same shall be deemed a default by Tenant under this Lease. Upon request by Landlord, Tenant shall deliver to Landlord an updated Environmental Questionnaire at least once a year; provided that, regardless of whether such request is made by Landlord, Tenant shall deliver to Landlord an updated Environmental Questionnaire to the extent any information therein needs to be updated in any material respect, provided that "material" shall mean any changes in the Hazardous Materials usage including, but not limited to, in terms of their hazardous character, handling profile, usage and quantity. Landlord’s prior written consent shall be required to any Hazardous Materials use for the Premises not described on the initial Environmental Questionnaire, such consent to be withheld in Landlord’s sole discretion. Tenant shall not install or permit any underground storage tank on the Premises. For purposes of this Lease, "**Hazardous Materials**" means all flammable explosives, petroleum and petroleum products, waste oil, radon, radioactive materials, toxic pollutants, asbestos, polychlorinated biphenyls (“**PCBs**”), medical waste, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, hazardous wastes, toxic substances or related materials, including without limitation any chemical, element, compound, mixture, solution, substance, object, waste or any combination thereof, which is or may be hazardous to human health, safety or to the environment due to its radioactivity, ignitability, corrosiveness, reactivity, explosiveness, toxicity, carcinogenicity, infectiousness or other harmful or potentially harmful properties or effects, or defined as, regulated as or included in, the definition of “hazardous substances,” “hazardous wastes,” “hazardous

materials," or "toxic substances" under any Environmental Laws. The term "Hazardous Materials" for purposes of this Lease shall also include any mold, fungus or spores, whether or not the same is defined, listed, or otherwise classified as a "hazardous material" under any Environmental Laws, if such mold, fungus or spores may pose a risk to human health or the environment or negatively impact the value of the Premises. For purposes of this Lease, "**Release**" or "**Released**" or "**Releases**" shall mean any release, deposit, discharge, emission, leaking, spilling, seeping, migrating, injecting, pumping, pouring, emptying, escaping, dumping, disposing, or other movement of Hazardous Materials into the environment. Landlord represents and warrant to Tenant that, to Landlord's actual knowledge, without duty of investigation or inquiry, there is no Hazardous Material on, in, or under the Premises as of the Lease Commencement Date in violation of Environmental Laws. For purposes of the foregoing, Landlords "actual knowledge" shall mean the current actual (as opposed to constructive) knowledge of Michael Dorris ("**Landlord's Representative**"). No duty of inquiry or investigation on the part of Landlord or Landlord's Representative will be required or implied by the making of any representation or warranty which is so limited to matters within Landlord's actual knowledge, and in no event shall Landlord's Representative have any personal liability therefor.

5.3.1.2 **Notices to Landlord**. Tenant shall notify Landlord in writing as soon as possible but in no event later than five (5) days after (i) the discovery (or the date Tenant should have discovered had Tenant acted in a reasonable and prudent manner) of any actual, alleged or threatened Release of any Hazardous Material in, on, under, from, about or in the vicinity of the Premises (whether past or present), regardless of the source or quantity of any such Release, or (ii) Tenant becomes aware of any regulatory actions, inquiries, inspections, investigations, directives, or any cleanup, compliance, enforcement or abatement proceedings (including any threatened or contemplated investigations or proceedings) relating to or potentially affecting the Premises, or (iii) Tenant becomes aware of any claims by any person or entity relating to any Hazardous Materials in, on, under, from, about or in the vicinity of the Premises, whether relating to damage, contribution, cost recovery, compensation, loss or injury. Collectively, the matters set forth in clauses (i), (ii) and (iii) above are hereinafter referred to as "**Hazardous Materials Claims**". Tenant shall promptly forward to Landlord copies of all orders, notices, permits, applications and other communications and reports in connection with any Hazardous Materials Claims. Additionally, Tenant shall promptly advise Landlord in writing of Tenant's discovery of any occurrence or condition on, in, under or about the Premises that could subject Tenant or Landlord to any liability, or restrictions on ownership, occupancy, transferability or use of the Premises under any "Environmental Laws," as that term is defined below. Tenant shall not enter into any legal proceeding or other action, settlement, consent decree or other compromise with respect to any Hazardous Materials Claims without first notifying Landlord of Tenant's intention to do so and affording Landlord the opportunity to join and participate, at Landlord's sole cost and expense, as a party if Landlord so elects, in such proceedings and in no event shall Tenant enter into any agreements which are binding on Landlord or the Premises without Landlord's prior written consent. Landlord shall have the right to appear at and participate in, any and all legal or other administrative proceedings concerning any Hazardous Materials Claim. For purposes of this Lease, "**Environmental Laws**" means all applicable present and future laws relating to the protection of human health, safety, wildlife or the environment, including, without limitation, (i) all requirements pertaining to reporting, licensing, permitting, investigation and/or remediation of emissions, discharges, Releases, or threatened Releases of Hazardous Materials, whether solid, liquid, or gaseous in nature, into the air, surface water, groundwater, or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling of Hazardous Materials; and (ii) all requirements pertaining to the health and safety of employees or the public. Environmental Laws include, but are not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 USC § 9601, et seq., the Hazardous Materials Transportation Authorization Act of 1994, 49 USC § 5101, et seq., the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and Hazardous and Solid Waste Amendments of 1984, 42 USC § 6901, et seq., the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, 33 USC § 1251, et seq., the Clean Air Act of 1966, 42 USC § 7401, et seq., the Toxic Substances Control Act of 1976, 15 USC § 2601, et seq., the Safe Drinking Water Act of 1974, 42 USC §§ 300f through 300j, the Occupational Safety and Health Act of 1970, as amended, 29 USC § 651 et seq., the Oil Pollution Act of 1990, 33 USC § 2701 et seq., the Emergency Planning and Community Right-To-Know Act of 1986, 42 USC § 11001 et seq., the National Environmental Policy Act of 1969, 42 USC § 4321 et seq., the Federal Insecticide, Fungicide and Rodenticide Act of 1947, 7 USC § 136 et seq., California Carpenter-Presley-Tanner Hazardous Substance Account Act, California Health & Safety Code §§ 25300 et seq., Hazardous Materials Release Response Plans and Inventory Act, California Health & Safety Code, §§ 25500 et seq., Underground Storage of Hazardous Substances provisions, California Health & Safety Code, §§ 25280 et seq., California Hazardous Waste Control Law, California Health & Safety Code, §§ 25100 et seq., and any

other state or local law counterparts, as amended, as such applicable laws, are in effect as of the Lease Commencement Date, or thereafter adopted, published, or promulgated.

5.3.1.3 **Releases of Hazardous Materials**. If any Release of any Hazardous Material in, on, under, from or about the Premises shall occur at any time during the Lease Term and/or if any other Hazardous Material condition exists at the Premises that requires response actions of any kind (other than Hazardous Materials brought onto the Premises by Landlord or Landlord's agents or an Existing Hazardous Materials condition), in addition to notifying Landlord as specified above, Tenant, at its own sole cost and expense, shall (i) timely comply with any and all reporting requirements imposed pursuant to any and all Environmental Laws, (ii) provide a written certification to Landlord indicating that Tenant has complied with all applicable reporting requirements, (iii) take any and all necessary investigation, corrective and remedial action in accordance with any and all applicable Environmental Laws, utilizing an environmental consultant approved by Landlord, all in accordance with the provisions and requirements of this Section 5.3, including, without limitation, Section 5.3.4, and (iv) take any such additional investigative, remedial and corrective actions as necessary such that the Premises are remediated to the condition required by applicable Environmental Laws and which allows the Premises and Project to be used without any use restriction that was not applicable to the Project as of the date of this Lease.

5.3.1.4 **Indemnification**.

5.3.1.4.1 **In General**. Without limiting in any way Tenant's obligations under any other provision of this Lease, Tenant shall be solely responsible for and shall protect, defend, indemnify and hold the Landlord Parties harmless from and against any and all claims, judgments, losses, damages, costs, expenses, penalties, enforcement actions, taxes, fines, remedial actions, liabilities (including, without limitation, actual attorneys' fees, litigation, arbitration and administrative proceeding costs, expert and consultant fees and laboratory costs) including, without limitation, sums paid in settlement of claims, which arise during or after the Lease Term, whether foreseeable or unforeseeable, arising out of or attributable to the presence, use, generation, manufacture, treatment, handling, refining, production, processing, storage, Release or presence of Hazardous Materials in, on, under or about the Premises by Tenant or Tenant's Agents. Landlord agrees to indemnify, defend, protect and hold harmless Tenant from and against any liability, obligation, damage or costs, including without limitation, attorneys' fees and costs, resulting directly or indirectly from any use, presence, removal or disposal of any Hazardous Materials to the extent such liability, obligation, damage or costs was a result of actions caused or knowingly permitted by Landlord or a Landlord Party.

5.3.1.4.2 **Limitations**. Notwithstanding anything in Section 5.3.1.4, above, to the contrary, Tenant's indemnity of Landlord as set forth in Section 5.3.1.4, above, shall not be applicable to (a) any claims that directly or indirectly arise from the activities of Landlord, its contractors or agents on or about the Premises after the Lease Commencement Date, and (b) claims based upon Hazardous Materials which may exist in, on or about the Premises as of the date of this Lease ("**Existing Hazardous Materials**"), except to the extent that Tenant's construction activities and/or Tenant's other acts or omissions caused or exacerbated the subject claim and Tenant had been notified in writing by Landlord of the particular Existing Hazardous Materials that is the subject of the claim (a "**Tenant Caused Release of Existing Hazardous Materials**").

5.3.1.5 **Compliance with Environmental Laws**. Without limiting the generality of Tenant's obligation to comply with applicable laws as otherwise provided in this Lease, Tenant shall, at its sole cost and expense, comply with all Environmental Laws applicable to its use of the Premises; provided however that Tenant shall not be liable for or obligated to remove or remediate any Existing Hazardous Materials (other than a Tenant Caused Release of Existing Hazardous Materials) or Hazardous Materials brought onto the Premises by Landlord or Landlord's agents. Tenant shall obtain and maintain any and all necessary permits, licenses, certifications and approvals appropriate or required for the use, handling, storage, and disposal of any Hazardous Materials used, stored, generated, transported, handled, blended, or recycled by Tenant on the Premises. Landlord shall have a continuing right, without obligation, to require Tenant to obtain, and to review and inspect any and all such permits, licenses, certifications and approvals, together with copies of any and all Hazardous Materials management plans and programs, any and all Hazardous Materials risk management and pollution prevention programs, and any and all Hazardous Materials emergency response and employee training programs respecting Tenant's use of Hazardous Materials. Upon request of Landlord, Tenant

shall deliver to Landlord a narrative description explaining the nature and scope of Tenant's activities involving Hazardous Materials and showing to Landlord's satisfaction compliance with all Environmental Laws and the terms of this Lease.

5.3.2 **Assurance of Performance**.

5.3.2.1 **Environmental Assessments In General**. Landlord may, but shall not be required to, engage from time to time such contractors as Landlord determines to be appropriate to perform environmental assessments of a scope reasonably determined by Landlord (an "**Environmental Assessment**") to ensure Tenant's compliance with the requirements of this Lease with respect to Hazardous Materials. Such Environmental Assessments shall be performed by a competent and experienced environmental engineer.

5.3.2.2 **Costs of Environmental Assessments**. All costs and expenses incurred by Landlord in connection with any such Environmental Assessment initially shall be paid by Landlord; provided that if any such Environmental Assessment shows that Tenant has failed to comply with the provisions of this Section 5.3, then all of the costs and expenses of such Environmental Assessment shall be reimbursed by Tenant as Additional Rent within ten (10) days after receipt of written demand therefor.

5.3.3 **Tenant's Obligations upon Surrender**. At the expiration or earlier termination of the Lease Term, Tenant, at Tenant's sole cost and expense, shall: (i) cause an Environmental Assessment of the Premises to be conducted in accordance with Section 15.3; (ii) to the extent required by Environmental Laws, cause all Hazardous Materials to be removed from the Premises and disposed of in accordance with all Environmental Laws and as necessary to allow the Premises to be used for any purpose; and (iii) cause to be removed all containers installed or used by Tenant or Tenant's Agents to store any Hazardous Materials on the Premises, and cause to be repaired any damage to the Premises caused by such removal.

5.3.4 **Clean-up**.

5.3.4.1 **Environmental Reports; Clean-Up**. If any written report containing results of any Environmental Assessment (an "**Environmental Report**") shall indicate (i) the presence of any Hazardous Materials as to which either Tenant or Landlord has a removal or remediation obligation under this Section 5.3, and (ii) that as a result of same, the investigation, characterization, monitoring, assessment, repair, closure, remediation, removal, or other clean-up (the "**Clean-up**") of any Hazardous Materials is required, Tenant shall immediately prepare and submit to Landlord within thirty (30) days after receipt of the Environmental Report a comprehensive plan, subject to Landlord's reasonable written approval, specifying the actions to be taken by Tenant to perform the Clean-up so that the Premises are restored to the conditions required by this Lease. Upon Landlord's approval of the Clean-up plan which shall not be unreasonably withheld, delayed or conditioned, Tenant shall, if the Clean-up is necessitated by Tenant's (or a Tenant Party's) act or omission, at Tenant's sole cost and expense, without limitation on any rights and remedies of Landlord under this Lease, immediately implement such plan with a consultant reasonably acceptable to Landlord and proceed to Clean-Up Hazardous Materials in accordance with all applicable laws and as required by such plan and this Lease. If the Clean-up is necessitated by Landlord's act or omission or in connection with Existing Hazardous Materials, the Clean-up shall be completed by Landlord at Landlord's sole cost and expense. If, within thirty (30) days after receiving a copy of such Environmental Report, Tenant fails either (a) to complete such Clean-up, or (b) with respect to any Clean-up that cannot be completed within such thirty-day period, fails to proceed with diligence to prepare the Clean-up plan and complete the Clean-up as promptly as practicable, then Landlord shall have the right, but not the obligation, and without waiving any other rights under this Lease, to carry out any Clean-up recommended by the Environmental Report or required by any governmental authority having jurisdiction over the Premises, and recover all of the costs and expenses thereof from Tenant as Additional Rent, payable within ten (10) days after receipt of written demand therefor. If an Environmental Report indicates that Clean-up of any Existing Hazardous Materials (other than a Tenant Caused Release of Existing Hazardous Materials) which is required by Environmental Laws, then Landlord, at its sole cost and expense, shall notify Tenant of, and thereafter implement, Landlord's Clean-up plan, which Clean-up plan, including the scope and timing thereof, shall cause the Premises to be restored substantially in the condition existing prior to commencing Landlord's Clean-up plan.

5.3.4.2 **Rent Abatement**. Tenant shall continue to pay all Rent due or accruing under this Lease during any Clean-up of Hazardous Materials as to which Tenant has a removal or remediation obligation under this **Section 5.3**, and shall not be entitled to any reduction, offset or deferral of any Base Rent or Additional Rent due or accruing under this Lease during any such Clean-up. During the Clean-up of Existing Hazardous Materials as to which Landlord has a removal or remediation obligation under this Section 5.3, Landlord may temporarily close all or a portion of the Premises to facilitate the Clean-up, and the provisions regarding Rent abatement set forth in Section 19.5.2 shall apply thereto except that Tenant shall not be required to provide notice to Landlord and the applicable abatement shall commence on the first day that all or a portion of the Premises are closed.

5.3.4.3 **Surrender of Premises**. Tenant shall complete any Clean-up prior to surrender of the Premises upon the expiration or earlier termination of this Lease. Tenant shall obtain and deliver to Landlord a letter or other written determination from the overseeing governmental authority confirming that the Clean-up has been completed in accordance with all requirements of such governmental authority and that no further response action of any kind is required for the unrestricted use of the Premises ("**Closure Letter**"). Upon the expiration or earlier termination of this Lease, Tenant shall also be obligated to close all permits obtained in connection with Hazardous Materials in accordance with applicable laws.

5.3.4.4 **Failure to Timely Clean-Up**. Should any Clean-up for which Tenant is responsible not be completed, or should Tenant not receive the Closure Letter and any governmental approvals required under Environmental Laws in conjunction with such Clean-up prior to the expiration or earlier termination of this Lease, then Tenant shall be liable to Landlord as a holdover tenant (as more particularly provided in Article 16) until Tenant has fully complied with its obligations under this Section 5.3.

5.3.5 **Confidentiality**. Unless compelled to do so by applicable law, Tenant agrees that Tenant shall not disclose, discuss, disseminate or copy any information, data, findings, communications, conclusions and reports regarding the environmental condition of the Premises to any Person (other than Tenant's consultants, attorneys, property managers and employees that have a need to know such information), including any governmental authority, without the prior written consent of Landlord. In the event Tenant reasonably believes that disclosure is compelled by applicable law, it shall provide Landlord five (5) days' advance notice of disclosure of confidential information so that Landlord may, at its own cost, attempt to obtain a protective order. Tenant may additionally release such information to bona fide prospective purchasers or lenders, subject to any such parties' written agreement to be bound by the terms of this Section 5.3.

5.3.6 **Copies of Environmental Reports**. Within thirty (30) days of receipt thereof, Tenant shall provide Landlord with a copy of any and all environmental assessments, audits, studies and reports regarding Tenant's activities with respect to the Premises, or ground water beneath the Land, or the environmental condition or Clean-up thereof. Tenant shall be obligated to provide Landlord with a copy of such materials without regard to whether such materials are generated by Tenant or prepared for Tenant, or how Tenant comes into possession of such materials.

5.3.7 **Intentionally Omitted**.

5.3.8 **Signs, Response Plans, Etc**. Tenant shall be responsible for posting on the Premises any signs required under applicable Environmental Laws. Tenant shall also complete and file any business response plans or inventories required by any applicable laws. Tenant shall concurrently file a copy of any such business response plan or inventory with Landlord.

5.3.9 **Survival**. Each covenant, agreement, representation, warranty and indemnification made by each of Tenant and Landlord set forth in this Section 5.3 shall survive the expiration or earlier termination of this Lease and shall remain effective until all of Tenant's obligations under this Section 5.3 have been completely performed and satisfied.

5.4 **Fitness Center**. Landlord and Tenant hereby acknowledge that Landlord currently operates a fitness center (the "**Fitness Center**") in Project, and, for so long as Landlord continues to operate the Fitness Center, the use of the Fitness Center shall be limited to (i) Tenant and Tenant's employees, and (ii) the tenants and their employees of

the 4955 DP Building and, if constructed, the Landlord Spec Building. Landlord reserves the right to control the manner in which the Fitness Center is maintained and operated (including the requirement, if applicable, that Tenant's employees using the Fitness Center execute Landlord's standard waiver form), and to make alterations or additions to, to relocate or to entirely eliminate the Fitness Center. In the event that Tenant requests Landlord to provide any extra services in connection with Tenant's use of the Fitness Center Tenant shall pay Landlord's standard charge for such service(s) requested by Tenant. Tenant shall comply with such reasonable rules and regulations relating to the Fitness Center as Landlord may from time to time promulgate. Tenant's use of the Fitness Center shall be without direct charge or cost to Tenant; provided, however, Tenant acknowledges and agrees that Landlord shall have the right to include in Operating Expenses costs incurred in connection with the operation and maintenance of the Fitness Center.

6. SERVICES AND UTILITIES

6.1 **In General**. Tenant will be responsible, at its sole cost and expense, for the furnishing of all services and utilities to the Premises (provided that Landlord and Tenant shall reasonably cooperate in good faith to cause any such utility provider to provide such utility to the point of entry into the Building; provided further that if any such utility provider is not responsible to make any repairs required to provide such utility to the point of entry into the Building, then Landlord shall use commercially reasonable efforts to repair (or cause to be repaired) such utility in order to provide the same to the point of entry into the Building), including, but not limited to heating, ventilation and air-conditioning, electricity, water, telephone, janitorial and interior Building security services.

6.1.1 All utilities (including without limitation, electricity, gas, sewer and water) to the Building are separately metered at the Premises and shall be paid directly by Tenant to the applicable utility provider.

6.1.2 Landlord shall not provide janitorial services for the Premises. Tenant shall be solely responsible for performing all janitorial services and other cleaning of the Premises, all in compliance with applicable laws. The janitorial and cleaning of the Premises shall be adequate to maintain the Premises in a manner consistent with First Class Life Sciences Projects.

Tenant shall cooperate fully with Landlord at all times and abide by all regulations and requirements that Landlord may reasonably prescribe for the proper functioning and protection of the HVAC, electrical, mechanical and plumbing systems. Provided that Landlord agrees to provide and maintain and keep in continuous service utility connections to the Project, including electricity, water and sewage connections, Landlord shall have no obligation to provide any services or utilities to the Building, including, but not limited to heating, ventilation and air-conditioning, electricity, water, telephone, janitorial and interior Building security services.

6.2 **Interruption of Use**. Tenant agrees that Landlord shall not be liable for damages, by abatement of Rent or otherwise, for failure to furnish or delay in furnishing any service (including telephone and telecommunication services), or for any diminution in the quality or quantity thereof, when such failure or delay or diminution is occasioned, in whole or in part, by breakage, repairs, replacements, or improvements, by any strike, lockout or other labor trouble, by inability to secure electricity, gas, water, or other fuel at the Building or Project after reasonable effort to do so, by any riot or other dangerous condition, emergency, accident or casualty whatsoever, by act or default of Tenant or other parties, or by any other cause; and such failures or delays or diminution shall never be deemed to constitute an eviction or disturbance of Tenant's use and possession of the Premises or relieve Tenant from paying Rent or performing any of its obligations under this Lease. Furthermore, Landlord shall not be liable under any circumstances for a loss of, or injury to, property or for injury to, or interference with, Tenant's business, including, without limitation, loss of profits, however occurring, through or in connection with or incidental to a failure to furnish any of the services or utilities as set forth in this Article 6.

6.3 **Energy Performance Disclosure Information**. Tenant hereby acknowledges that Landlord may be required to disclose certain information concerning the energy performance of the Building pursuant to California Public Resources Code Section 25402.10 and the regulations adopted pursuant thereto (collectively the "**Energy Disclosure Requirements**"). Tenant hereby acknowledges prior receipt of the Data Verification Checklist, as defined in the Energy Disclosure Requirements (the "**Energy Disclosure Information**"), and agrees that Landlord has timely complied in full with Landlord's obligations under the Energy Disclosure Requirements. Tenant acknowledges and

agrees that (i) Landlord makes no representation or warranty regarding the energy performance of the Building or the accuracy or completeness of the Energy Disclosure Information, (ii) the Energy Disclosure Information is for the current occupancy and use of the Building and that the energy performance of the Building may vary depending on future occupancy and/or use of the Building, and (iii) Landlord shall have no liability to Tenant for any errors or omissions in the Energy Disclosure Information. If and to the extent not prohibited by applicable laws, Tenant hereby waives any right Tenant may have to receive the Energy Disclosure Information, including, without limitation, any right Tenant may have to terminate this Lease as a result of Landlord's failure to disclose such information. Further, Tenant hereby releases Landlord from any and all losses, costs, damages, expenses and/or liabilities relating to, arising out of and/or resulting from the Energy Disclosure Requirements, including, without limitation, any liabilities arising as a result of Landlord's failure to disclose the Energy Disclosure Information to Tenant prior to the execution of this Lease. Tenant's acknowledgment of the AS-IS condition of the Premises pursuant to the terms of this Lease shall be deemed to include the energy performance of the Building. Tenant further acknowledges that pursuant to the Energy Disclosure Requirements, Landlord may be required in the future to disclose information concerning Tenant's energy usage to certain third parties, including, without limitation, prospective purchasers, lenders and tenants of the Building (the "**Tenant Energy Use Disclosure**"). Tenant hereby (A) consents to all such Tenant Energy Use Disclosures, and (B) acknowledges that Landlord shall not be required to notify Tenant of any Tenant Energy Use Disclosure. Further, Tenant hereby releases Landlord from any and all losses, costs, damages, expenses and liabilities relating to, arising out of and/or resulting from any Tenant Energy Use Disclosure. The terms of this Section 6.3 shall survive the expiration or earlier termination of this Lease.

6.4 **Tenant Maintained Security**. Tenant hereby acknowledges that Landlord shall have no obligation to provide, or otherwise pay for, any guard service or other security measures for the benefit of the Premises or the Project. Tenant hereby assumes all responsibility for the protection of Tenant and its agents, employees, contractors, invitees and guests, and the property thereof, from acts of third parties, including keeping doors locked and other means of entry to the Premises closed. In accordance with, initially, the terms and conditions of the Tenant Work Letter attached hereto as **Exhibit B**, or thereafter the terms and conditions of Article 8 of this Lease, Tenant shall be allowed, at Tenant's sole cost and expense, to install its own integrated security systems for the Premises.

7. REPAIRS

7.1 **Tenant Repair Obligations**. Subject to Landlord's obligations under Section 1.1.4, above, Tenant shall, throughout the Term, at its sole cost and expense, maintain, repair, replace and improve as required, the non-structural portion of the interior of the Premises and Building and every part thereof in a good standard of maintenance, repair and replacement as required, and in good and sanitary condition, all in accordance with the standards of First Class Life Sciences Projects, except for "Landlord Repair Obligations," as that term is defined in Section 7.4, below, whether or not such maintenance, repair, replacement or improvement is required in order to comply with applicable Laws ("**Tenant's Repair Obligations**"), including, without limitation, the following: (1) glass, windows, window frames, window casements (including the repairing, resealing, cleaning and replacing of both interior and exterior windows) and skylights; (2) interior and exterior doors, door frames and door closers; (3) interior lighting (including, without limitation, light bulbs and ballasts); (4) the plumbing, sewer, drainage, electrical, fire protection, elevator, escalator, life safety and security systems and equipment, existing heating, ventilation and air-conditioning systems, and all other mechanical, electrical and communications systems and equipment (collectively, the "**Building Systems**"), including without limitation (i) any specialty or supplemental Building Systems installed by or for Tenant and (ii) all electrical facilities and equipment, including lighting fixtures, lamps, fans and any exhaust equipment and systems, electrical motors and all other appliances and equipment of every kind and nature located in, upon or about the Premises; (5) all communications systems serving the Premises; (6) all of Tenant's security systems in or about or serving the Premises; (7) Tenant's signage; (8) interior demising walls and partitions (including painting and wall coverings), equipment, floors, and any roll-up doors, ramps and dock equipment; and (9) the non-structural portions of the roof of the Building. Tenant's Repair Obligations also includes the routine maintenance of the load bearing and exterior walls of the Building, including, without limitation, any painting, sealing, patching and waterproofing of such walls. Tenant shall additionally be responsible, at Tenant's sole cost and expense, to furnish all expendables, including light bulbs, paper goods and soaps, used in the Premises, and, to the extent that Landlord notifies Tenant in writing of its intention to no longer arrange for such monitoring, cause the fire alarm systems serving the Premises to be monitored by a monitoring or protective services firm approved by Landlord in writing.

7.2 **Service Contracts**. All Building Systems, including HVAC, elevators, main electrical, plumbing and fire/life-safety systems, shall be maintained, repaired and replaced by Tenant (i) in a commercially reasonable condition consistent with prevalent industry practices, (ii) in accordance with any applicable manufacturer specifications relating to any particular component of such Building Systems, (iii) in accordance with applicable Laws. Tenant shall contract with a qualified, experienced professional third party service companies (a "**Service Contract**"). Tenant shall regularly, in accordance with commercially reasonable standards, generate and maintain preventive maintenance records relating to each Building's mechanical and main electrical systems, including life safety, elevators and the central plant ("**Preventative Maintenance Records**"). In addition, upon Landlord's request, Tenant shall deliver a copy of all current Service Contracts to Landlord and/or a copy of the Preventative Maintenance Records.

7.3 **Landlord's Right to Perform Tenant's Repair Obligations**. Tenant shall notify Landlord in writing at least ten (10) days prior to performing any material Tenant's Repair Obligations, including without limitation, any Tenant's Repair Obligation which affect the Building Systems or which is reasonably anticipated to cost more than $100,000.00, which notice will provide the reasonably anticipated schedule for completion of such repair. Upon receipt of such notice from Tenant, Landlord shall have the right to either (i) perform such material Tenant's Repair Obligation materially on the same schedule set by Tenant for such repair by delivering notice of such election to Tenant within ten (10) days following receipt of Tenant's notice, and Tenant shall pay Landlord the cost thereof (including Landlord's reasonable supervision fee) within thirty (30) days after receipt of an invoice therefor, or (ii) require Tenant to perform such Tenant's Repair Obligation at Tenant's sole cost and expense. If Tenant fails to perform any Tenant's Repair Obligation within a reasonable time period, as reasonably determined by Landlord, then Landlord may, but need not, following delivery of notice to Tenant of such election, make such Tenant Repair Obligation, and Tenant shall pay Landlord the cost thereof, (including Landlord's reasonable supervision fee) within thirty (30) days after receipt of an invoice therefor.

7.4 **Landlord Repair Obligations**. Landlord shall maintain, repair, replace and improve as required, the exterior walls, foundation and roof of the Building, the structural portions of the floors of the Building, except to the extent that such repairs are required due to the negligence or willful misconduct of Tenant (the "**Landlord Repair Obligation**"); provided, however, that if such repairs are due to the negligence or willful misconduct of Tenant, Landlord shall nevertheless make such repairs at Tenant's expense, or, if covered by Landlord's insurance, Tenant shall only be obligated to pay any deductible in connection therewith.

8. ADDITIONS AND ALTERATIONS

8.1 **Landlord's Consent to Alterations**. Tenant may not make any improvements, alterations, additions or changes to the Premises or any mechanical, plumbing or HVAC facilities or systems pertaining to the Premises (collectively, the "**Alterations**") without first procuring the prior written consent of Landlord to such Alterations, which consent shall be requested by Tenant not less than thirty (30) days prior to the commencement thereof, and which consent shall not be unreasonably withheld by Landlord, provided it shall be deemed reasonable for Landlord to withhold its consent to any Alteration which adversely affects the structural portions or the systems or equipment of the Building or is visible from the exterior of the Building. Notwithstanding the foregoing, Tenant shall be permitted to make Alterations following ten (10) business days' notice to Landlord, but without Landlord's prior consent, to the extent that such Alterations (i) do not affect the building systems or equipment, (ii) are not visible from the exterior of the Building, and (iii) cost less than $50,000.00 for a particular job of work. The construction of the initial improvements to the Premises shall be governed by the terms of the Tenant Work Letter and not the terms of this Article 8.

8.2 **Manner of Construction**. Landlord may impose, as a condition of its consent to any and all Alterations or repairs of the Premises or about the Premises, such requirements as Landlord in its reasonable discretion may deem desirable, including, but not limited to, the requirement that in accordance with the terms of Section 8.5, below, Tenant shall, at Tenant's expense, remove such Alterations upon the expiration or any early termination of the Lease Term. Tenant shall construct such Alterations and perform such repairs in a good and workmanlike manner, in conformance with any and all applicable federal, state, county or municipal laws, rules and regulations and pursuant to a valid building permit, issued by the city in which the Building is located (or other applicable governmental authority). Tenant shall not use (and upon notice from Landlord shall cease using) contractors, services, workmen, labor, materials or equipment that, in Landlord's reasonable judgment, would disturb labor harmony with the workforce or trades

engaged in performing other work, labor or services in or about the Building or the Common Areas. Upon completion of any Alterations (or repairs), Tenant shall deliver to Landlord final lien waivers from all contractors, subcontractors and materialmen who performed such work. In addition to Tenant's obligations under Article 9 of this Lease, upon completion of any Alterations, Tenant agrees to cause a Notice of Completion to be recorded in the office of the Recorder of the County of San Diego in accordance with Section 8182 of the Civil Code of the State of California or any successor statute, and Tenant shall deliver to the Project construction manager a reproducible copy of the "**as built**" drawings of the Alterations as well as all permits, approvals and other documents issued by any governmental agency in connection with the Alterations.

8.3 **Payment for Improvements**. If Tenant orders any work directly from Landlord, Tenant shall pay to Landlord an amount equal to five percent (5%) of the cost of such work to compensate Landlord for all overhead, general conditions, fees and other costs and expenses arising from Landlord's involvement with such work. If Tenant does not order any work directly from Landlord, Tenant shall reimburse Landlord for Landlord's reasonable, actual, out-of-pocket costs and expenses actually incurred in connection with Landlord's review of such work.

8.4 **Construction Insurance**. In addition to the requirements of Article 10 of this Lease, in the event that Tenant makes any Alterations, prior to the commencement of such Alterations, Tenant shall provide Landlord with evidence that Tenant carries "Builder's All Risk" insurance in an amount approved by Landlord covering the construction of such Alterations, and such other insurance as Landlord may reasonably require, it being understood and agreed that all of such Alterations shall be insured by Tenant pursuant to Article 10 of this Lease immediately upon completion thereof. In addition, Tenant's contractors and subcontractors shall be required to carry (i) Commercial General Liability Insurance in an amount approved by Landlord, with Landlord, and, at Landlord's option, Landlord's property manager and project manager, as additional insureds in an amount approved by Landlord, and otherwise in accordance with the requirements of Article 10 of this Lease, and (ii) workers compensation insurance with a waiver of subrogation in favor of Landlord . Landlord may, in its reasonable judgment taking into consideration the anticipated cost of such Alteration and Tenant's then financial wherewithal, require Tenant to obtain a lien and completion bond or some alternate form of security satisfactory to Landlord in an amount sufficient to ensure the lien-free completion of such Alterations and naming Landlord as a co-obligee. For purposes of determining the cost of an Alteration, work done in phases or stages shall be considered part of the same Alteration, and any Alteration shall be deemed to include all trades and materials involved in accomplishing a particular result.

8.5 **Landlord's Property**. All Alterations, improvements, fixtures, equipment and/or appurtenances which may be installed or placed in or about the Premises, from time to time, shall be at the sole cost of Tenant and shall be and become the property of Landlord and remain in place at the Premises following the expiration or earlier termination of this Lease. Notwithstanding the foregoing, Landlord may, by written notice to Tenant prior to the end of the Lease Term, or given following any earlier termination of this Lease, require Tenant, at Tenant's expense, to remove any Alterations and/or improvements and/or systems and equipment within the Premises and to repair any damage to the Premises and Building caused by such removal; provided; however, that notwithstanding the foregoing, upon request by Tenant at the time of Tenant's request for Landlord's consent to any Alteration or improvement, Landlord shall notify Tenant whether the applicable Alteration or improvement will be required to be removed pursuant to the terms of this Section 8.5 and whether Tenant will be required to restore any portion of the Premises affected by such removal, and Tenant shall have no removal or restoration obligations for Alterations or improvements identified in such notice as not requiring removal by Landlord. If Tenant fails to complete any required removal and/or to repair any damage caused by the removal of any Alterations and/or improvements and/or systems and equipment in the Premises and return the affected portion of the Premises to a condition required by Landlord (subject to the immediately preceding sentence), Landlord may do so and may charge the cost thereof to Tenant. Tenant hereby protects, defends, indemnifies and holds Landlord harmless from any liability, cost, obligation, expense or claim of lien in any manner relating to the installation, placement, removal or financing of any such Alterations, improvements, fixtures and/or equipment in, on or about the Premises, which obligations of Tenant shall survive the expiration or earlier termination of this Lease.

9. COVENANT AGAINST LIENS Tenant shall keep the Project and Premises free from any liens or encumbrances arising out of the work performed, materials furnished or obligations incurred by or on behalf of Tenant, and shall protect, defend, indemnify and hold Landlord harmless from and against any claims, liabilities, judgments or costs (including, without limitation, reasonable attorneys' fees and costs) arising out of same or in connection therewith. Tenant shall give Landlord notice at least twenty (20) days prior to the commencement of any such work on the Premises (or such additional time as may be necessary under applicable laws) to afford Landlord the opportunity of posting and recording appropriate notices of non-responsibility (to the extent applicable pursuant to then applicable laws). Tenant shall remove any such lien or encumbrance by bond or otherwise within ten (10) business days after notice by Landlord, and if Tenant shall fail to do so, Landlord may pay the amount necessary to remove such lien or encumbrance, without being responsible for investigating the validity thereof.

10. INSURANCE

10.1 **Indemnification and Waiver**. Subject to the waiver of subrogation provisions set forth in Section 10.5, and except to the extent arising from the gross negligence or willful misconduct of Landlord or the "Landlord Parties," as that term is defined below, or Landlord's breach of this Lease, Tenant hereby assumes all risk of damage to property or injury to persons in, upon or about the Premises from any cause whatsoever and agrees that Landlord, its partners, subpartners and their respective officers, agents, servants, employees, lenders, any property manager and independent contractors (collectively, "**Landlord Parties**") shall not be liable for, and are hereby released from any responsibility for, any damage either to person or property or resulting from the loss of use thereof, which damage is sustained by Tenant or by other persons claiming through Tenant. Except to the extent arising from the gross negligence or willful misconduct of Landlord or the Landlord Parties or Landlord's breach of this Lease, Tenant shall indemnify, defend, protect, and hold harmless the Landlord Parties from any and all claims, loss, cost, damage, injury, expense and liability (including without limitation court costs and reasonable attorneys' fees) incurred in connection with or arising from any cause in, on or about the Premises, any acts, omissions or negligence of Tenant or of any person claiming by, through or under Tenant, or of the contractors, agents, servants, employees, invitees, guests or licensees of Tenant or any such person, in, on or about the Project or any breach of the terms of this Lease, either prior to, during, or after the expiration of the Lease Term. Landlord shall indemnify, defend, protect, and hold Tenant harmless from any and all loss, cost, damage, expense and liability (including without limitation reasonable attorneys' fees) to the extent arising from the gross negligence or willful misconduct of Landlord or any Landlord Parties in, on or about the Project, except to the extent caused by the negligence or willful misconduct of the Tenant Parties. Notwithstanding anything to the contrary set forth in this Lease, either party's agreement to indemnify the other party as set forth in this Section 10.1 shall be ineffective to the extent the matters for which such party agreed to indemnify the other party are covered by insurance required to be carried by the non-indemnifying party pursuant to this Lease. Further, Tenant's agreement to indemnify Landlord and Landlord's agreement to indemnify Tenant pursuant to this Section 10.1 are not intended to and shall not relieve any insurance carrier of its obligations under policies required to be carried pursuant to the provisions of this Lease, to the extent such policies cover, or if carried, would have covered the matters, subject to the parties' respective indemnification obligations; nor shall they supersede any inconsistent agreement of the parties set forth in any other provision of this Lease. Should Landlord be named as a defendant in any suit brought against Tenant in connection with or arising out of Tenant's occupancy of the Premises, Tenant shall pay to Landlord its reasonable costs and expenses incurred in such suit, including without limitation, its actual professional fees such as reasonable appraisers', accountants' and attorneys' fees. The provisions of this Section 10.1 shall survive the expiration or sooner termination of this Lease with respect to any claims or liability arising in connection with any event occurring prior to such expiration or termination.

10.2 **Tenant's Compliance With Landlord's Property Insurance**. Landlord shall insure the Building during the Lease Term against loss or damage under a building property and general liability insurance policy. Such coverage shall be in such amounts, from such companies, and on such other terms and conditions, as Landlord may from time to time reasonably determine. Additionally, at the option of Landlord, such insurance coverage may include the risks of earthquakes and/or flood damage and additional hazards, a rental loss endorsement and one or more loss payee endorsements in favor of the holders of any mortgages or deeds of trust encumbering the interest of Landlord in the Building or the ground or underlying lessors of the Building, or any portion thereof. Tenant shall, at Tenant's expense, comply with all insurance company requirements pertaining to the use of the Premises. If Tenant's conduct or use of the Premises causes any increase in the premium for such insurance policies then Tenant shall reimburse

Landlord for any such increase. Tenant, at Tenant's expense, shall comply with all rules, orders, regulations or requirements of the American Insurance Association (formerly the National Board of Fire Underwriters) and with any similar body.

10.3 **Tenant's Insurance**. Tenant shall maintain the following coverages in the following amounts.

10.3.1 Commercial General Liability Insurance on an occurrence form covering the insured against claims of bodily injury, personal injury and property damage (including loss of use thereof) arising out of Tenant's operations, and contractual liabilities including a contractual coverage, and including products and completed operations coverage, for limits of liability on a per location basis of not less than:

Bodily Injury and Property Damage Liability	$2,000,000 each occurrence $2,000,000 annual aggregate
Personal Injury Liability	$2,000,000 each occurrence $2,000,000 annual aggregate

10.3.2 Property Insurance covering (i) all office furniture, business and trade fixtures, office equipment, free-standing cabinet work, movable partitions, merchandise and all other items of Tenant's property on the Premises installed by, for, or at the expense of Tenant, (ii) the "**Tenant Improvements**," as that term is defined in the Tenant Work Letter, and any other improvements which exist in the Premises as of the Lease Commencement Date (excluding the "Base Building," as that term is defined below) (the "**Original Improvements**"), and (iii) all other improvements, alterations and additions to the Premises. Such insurance shall be written on an "**all risks**" of physical loss or damage basis, for the full replacement cost value (subject to reasonable deductible amounts) new without deduction for depreciation of the covered items and in amounts that meet any co-insurance clauses of the policies of insurance and shall include coverage for damage or other loss caused by fire or other peril including, but not limited to, vandalism and malicious mischief, theft, sprinkler leakage, bursting or stoppage of pipes, and explosion. As used in this Lease, the "**Base Building**" shall include the structural portions of the Building, and the elevators, exit stairwells and the systems and equipment located in the internal core of the Building.

10.3.3 Business Income Interruption for one (1) year plus Extra Expense insurance in such amounts as will reimburse Tenant for actual direct or indirect loss of earnings attributable to the risks outlined in Section 10.3.2 above, up to the Tenant's blanket coverage limit for business interruption insurance of $8,395,000.

10.3.4 Worker's Compensation and Employer's Liability or other similar insurance pursuant to all applicable state and local statutes and regulations. The policy shall include a waiver of subrogation in favor of Landlord, its employees, Lenders and any property manager or partners.

10.4 **Form of Policies**. The minimum limits of policies of insurance required of Tenant under this Lease shall in no event limit the liability of Tenant under this Lease. Such insurance shall (i) name Landlord, its subsidiaries and affiliates, its property manager (if any) and any other party the Landlord so specifies, as an additional insured, including Landlord's managing agent (but only with regard to commercial liability and general property insurance), if any; (ii) be issued by an insurance company having a rating of not less than A:IX in Best's Insurance Guide or which is otherwise acceptable to Landlord and licensed to do business in the State of California; (iv) be primary insurance as to all claims thereunder and provide that any insurance carried by Landlord is excess and is non-contributing with any insurance required of Tenant; (v) be in form and content reasonably acceptable to Landlord; and (vi) provide that said insurance shall not be canceled or coverage changed unless thirty (30) days' prior written notice shall have been given to Landlord and any mortgagee of Landlord (unless such cancellation is the result of non-payment of premiums). Tenant shall deliver said policy or policies or certificates thereof to Landlord on or before the Lease Commencement Date and at least ten (10) days before the expiration dates thereof. In the event Tenant shall fail to procure such insurance, or to deliver such policies or certificate, Landlord may, at its option, procure such policies for the account of Tenant, and the cost thereof shall be paid to Landlord within five (5) days after delivery to Tenant of bills therefor.

10.5 **Subrogation**. Landlord and Tenant hereby agree to look solely to, and seek recovery only from, their respective insurance carriers in the event of a property or business interruption loss to the extent that such coverage is agreed to be provided hereunder. The parties each hereby waive all rights and claims against each other for such losses, and waive all rights of subrogation of their respective insurers, provided such waiver of subrogation shall not affect the right to the insured to recover thereunder. The parties agree that their respective insurance policies do now, or shall, contain the waiver of subrogation.

10.6 **Additional Insurance Obligations**. Tenant shall carry and maintain during the entire Lease Term, at Tenant's sole cost and expense, increased amounts of the insurance required to be carried by Tenant pursuant to this Article 10 and such other reasonable types of insurance coverage and in such reasonable amounts covering the Premises and Tenant's operations therein, as may be reasonably requested by Landlord or Landlord's lender, but in no event in excess of the amounts and types of insurance then being required by landlords of buildings comparable to and in the vicinity of the Building.

11. DAMAGE AND DESTRUCTION

11.1 **Repair of Damage to Premises by Landlord**. Tenant shall promptly notify Landlord of any damage to the Premises resulting from fire or any other casualty. If the Premises or any Common Areas serving or providing access to the Premises shall be damaged by fire or other casualty, Landlord shall promptly and diligently, subject to reasonable delays for insurance adjustment or other matters beyond Landlord's reasonable control, and subject to all other terms of this Article 11, restore the Base Building and such Common Areas. Such restoration shall be to substantially the same condition of the Base Building and the Common Areas prior to the casualty, except for modifications required by zoning and building codes and other laws or by the holder of a mortgage on the Building or Project or any other modifications to the Common Areas deemed desirable by Landlord, which are consistent with the character of the Project, provided that access to the Premises shall not be materially impaired. Upon the occurrence of any damage to the Premises, upon notice (the "**Landlord Repair Notice**") to Tenant from Landlord, Tenant shall assign to Landlord (or to any party designated by Landlord) all insurance proceeds payable to Tenant under Tenant's insurance required under Section 10.3 of this Lease, and Landlord shall repair any injury or damage to the Tenant Improvements and the Original Improvements installed in the Premises and shall return such Tenant Improvements and Original Improvements to their original condition; provided that if the cost of such repair by Landlord exceeds the amount of insurance proceeds received by Landlord from Tenant's insurance carrier, as assigned by Tenant, the excess cost of such repairs shall be paid by Tenant to Landlord in accordance with a reasonable progress payment schedule, or, in the event Tenant is not the Original Tenant, then prior to Landlord's commencement of repair of the damage. In the event that Landlord does not deliver the Landlord Repair Notice within sixty (60) days following the date the casualty becomes known to Landlord, Tenant shall, at its sole cost and expense, repair any injury or damage to the Tenant Improvements and the Original Improvements installed in the Premises and shall return such Tenant Improvements and Original Improvements to their original condition. Whether or not Landlord delivers a Landlord Repair Notice, prior to the commencement of construction, Tenant shall submit to Landlord, for Landlord's review and approval, all plans, specifications and working drawings relating thereto, and Landlord shall select the contractors to perform such improvement work. Landlord shall not be liable for any inconvenience or annoyance to Tenant or its visitors, or injury to Tenant's business resulting in any way from such damage or the repair thereof; provided however, that if such fire or other casualty shall have damaged the Premises or Common Areas necessary to Tenant's occupancy, and the Premises are not occupied by Tenant as a result thereof, then during the time and to the extent the Premises are unfit for occupancy, the Rent shall be abated in proportion to the ratio that the amount of rentable square feet of the Premises which is unfit for occupancy for the purposes permitted under this Lease bears to the total rentable square feet of the Premises. In the event that Landlord shall not deliver the Landlord Repair Notice, Tenant's right to rent abatement pursuant to the preceding sentence shall terminate as of the date which is reasonably determined by Landlord to be the date Tenant should have completed repairs to the Premises assuming Tenant used reasonable due diligence in connection therewith.

11.2 **Landlord's Option to Repair**. Notwithstanding the terms of Section 11.1 of this Lease, Landlord may elect not to rebuild and/or restore the Premises, Building and/or Project, and instead terminate this Lease, by notifying Tenant in writing of such termination within forty-five (45) days after the date of discovery of the damage, such notice to include a termination date giving Tenant sixty (60) days to vacate the Premises, but Landlord may so

elect only if the Building or Project shall be damaged by fire or other casualty or cause, whether or not the Premises are affected, and one or more of the following conditions is present: (i) in Landlord's reasonable judgment, repairs cannot reasonably be completed within one hundred eighty (180) days after the date of discovery of the damage (when such repairs are made without the payment of overtime or other premiums); (ii) the holder of any mortgage on the Building or Project or ground lessor with respect to the Building or Project shall require that the insurance proceeds or any portion thereof be used to retire the mortgage debt, or shall terminate the ground lease, as the case may be; (iii) the damage is not fully covered by Landlord's insurance policies, after the payment by Landlord of any deductible under the applicable insurance policy in an amount up to Five Hundred Thousand and 00/100 Dollars ($500,000.00); (iv) Landlord decides to rebuild the Building or Common Areas so that they will be substantially different structurally or architecturally; (v) the damage occurs during the last twelve (12) months of the Lease Term; or (vi) any owner of any other portion of the Project, other than Landlord, does not intend to repair the damage to such portion of the Project; provided, however, that if Landlord does not elect to terminate this Lease pursuant to Landlord's termination right as provided above, and the repairs cannot, in the reasonable opinion of Landlord, be completed within one hundred eighty (180) days after being commenced, Tenant may elect, no earlier than sixty (60) days after the date of the damage and not later than ninety (90) days after the date of such damage, to terminate this Lease by written notice to Landlord effective as of the date specified in the notice, which date shall not be less than thirty (30) days nor more than sixty (60) days after the date such notice is given by Tenant. Notwithstanding the provisions of this Section 11.2, Tenant shall have the right to terminate this Lease under this Section 11.2 only if each of the following conditions is satisfied: (a) the damage to the Project by fire or other casualty was not caused by the gross negligence or intentional act of Tenant or its partners or subpartners and their respective officers, agents, servants, employees, and independent contractors; (b) as a result of the damage, Tenant cannot reasonably conduct business from the Premises; and () as a result of the damage to the Project, Tenant does not occupy or use the Premises at all.

11.3 **Waiver of Statutory Provisions**. The provisions of this Lease, including this Article 11, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, the Building or the Project, and any statute or regulation of the State of California, including, without limitation, Sections 1932(2) and 1933(4) of the California Civil Code, with respect to any rights or obligations concerning damage or destruction in the absence of an express agreement between the parties, and any other statute or regulation, now or hereafter in effect, shall have no application to this Lease or any damage or destruction to all or any part of the Premises, the Building or the Project.

12. NONWAIVER No provision of this Lease shall be deemed waived by either party hereto unless expressly waived in a writing signed thereby. The waiver by either party hereto of any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of any subsequent breach of same or any other term, covenant or condition herein contained. The subsequent acceptance of Rent hereunder by Landlord shall not be deemed to be a waiver of any preceding breach by Tenant of any term, covenant or condition of this Lease, other than the failure of Tenant to pay the particular Rent so accepted, regardless of Landlord's knowledge of such preceding breach at the time of acceptance of such Rent. No acceptance of a lesser amount than the Rent herein stipulated shall be deemed a waiver of Landlord's right to receive the full amount due, nor shall any endorsement or statement on any check or payment or any letter accompanying such check or payment be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the full amount due. No receipt of monies by Landlord from Tenant after the termination of this Lease shall in any way alter the length of the Lease Term or of Tenant's right of possession hereunder, or after the giving of any notice shall reinstate, continue or extend the Lease Term or affect any notice given Tenant prior to the receipt of such monies, it being agreed that after the service of notice or the commencement of a suit, or after final judgment for possession of the Premises, Landlord may receive and collect any Rent due, and the payment of said Rent shall not waive or affect said notice, suit or judgment.

13. CONDEMNATION If the whole or any part of the Premises, Building or Project shall be taken by power of eminent domain or condemned by any competent authority for any public or quasi-public use or purpose, or if any adjacent property or street shall be so taken or condemned, or reconfigured or vacated by such authority in such manner as to require the use, reconstruction or remodeling of any part of the Premises, Building or Project, or if Landlord shall grant a deed or other instrument in lieu of such taking by eminent domain or condemnation, Landlord shall have the option to terminate this Lease effective as of the date possession is required to be surrendered to the authority. Tenant shall not because of such taking assert any claim against Landlord or the authority for any compensation

because of such taking and Landlord shall be entitled to the entire award or payment in connection therewith, except that Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's personal property and fixtures belonging to Tenant and removable by Tenant upon expiration of the Lease Term pursuant to the terms of this Lease, and for moving expenses, so long as such claims do not materially diminish the award available to Landlord, its ground lessor with respect to the Building or Project or its mortgagee, and such claim is payable separately to Tenant. All Rent shall be apportioned as of the date of such termination. If any part of the Premises shall be taken, and this Lease shall not be so terminated, the Rent shall be proportionately abated. Tenant hereby waives any and all rights it might otherwise have pursuant to Section 1265.130 of The California Code of Civil Procedure. Notwithstanding anything to the contrary contained in this Article 13, in the event of a temporary taking of all or any portion of the Premises for a period of one hundred and eighty (180) days or less, then this Lease shall not terminate but the Base Rent and the Additional Rent shall be abated for the period of such taking in proportion to the ratio that the amount of rentable square feet of the Premises taken bears to the total rentable square feet of the Premises. Landlord shall be entitled to receive the entire award made in connection with any such temporary taking.

14. ASSIGNMENT AND SUBLETTING

14.1 **Transfers**. Tenant shall not, without the prior written consent of Landlord, which will not be unreasonably withheld, assign, mortgage, pledge, hypothecate, encumber, or permit any lien to attach to, or otherwise transfer, this Lease or any interest hereunder, permit any assignment, or other transfer of this Lease or any interest hereunder by operation of law, sublet the Premises or any part thereof, or enter into any license or concession agreements or otherwise permit the occupancy or use of the Premises or any part thereof by any persons other than Tenant and its employees and contractors (all of the foregoing are hereinafter sometimes referred to collectively as "**Transfers**" and any person to whom any Transfer is made or sought to be made is hereinafter sometimes referred to as a "**Transferee**"). If Tenant desires Landlord's consent to any Transfer, Tenant shall notify Landlord in writing, which notice (the "**Transfer Notice**") shall include (i) the proposed effective date of the Transfer, which shall not be less than thirty (30) days nor more than one hundred eighty (180) days after the date of delivery of the Transfer Notice, (ii) a description of the portion of the Premises to be transferred (the "**Subject Space**"), (iii) all of the terms of the proposed Transfer and the consideration therefor, including calculation of the "**Transfer Premium**", as that term is defined in Section 14.3 below, in connection with such Transfer, the name and address of the proposed Transferee, and a copy of all existing executed and/or proposed documentation pertaining to the proposed Transfer, and (iv) current financial statements of the proposed Transferee certified by an officer, partner or owner thereof, business credit and personal references and history of the proposed Transferee and any other information reasonably required by Landlord which will enable Landlord to determine the financial responsibility, character, and reputation of the proposed Transferee, nature of such Transferee's business and proposed use of the Subject Space. Any Transfer made without Landlord's prior written consent shall, at Landlord's option, be null, void and of no effect, and shall, at Landlord's option, constitute a default by Tenant under this Lease. Whether or not Landlord consents to any proposed Transfer, Tenant shall pay Landlord's reasonable review and processing fees, as well as any reasonable professional fees (including, without limitation, attorneys', accountants', architects', engineers' and consultants' fees) incurred by Landlord, not to exceed Two Thousand and 00/100 Dollars ($2,000.00) for a Transfer in the ordinary course of business, within thirty (30) days after written request by Landlord.

14.2 **Landlord's Consent**. Landlord shall not unreasonably withhold, condition or delay its consent to any proposed Transfer of the Subject Space to the Transferee on the terms specified in the Transfer Notice. Without limitation as to other reasonable grounds for withholding consent, the parties hereby agree that it shall be reasonable under this Lease and under any applicable law for Landlord to withhold consent to any proposed Transfer where one or more of the following apply:

14.2.1 The Transferee is of a character or reputation or engaged in a business which is not consistent with the quality of the Building or the Project;

14.2.2 The Transferee is either a governmental agency or instrumentality thereof;

14.2.3 (A) If the Transferee is an assignee, the Transferee, (i) if such Transferee is a public company, has a market capitalization less than Tenant's market capitalization as of the date of this Lease (which the parties hereby agree is $525,000,000.00) ("**Tenant's Market Capitalization**"), and (ii) if such Transferee is not a public company,

has a tangible net worth (not including goodwill as an asset) computed in accordance with generally accepted accounting principles which is less than the equivalent to Tenant's Market Capitalization, and (B) if the Transferee is a sublessee, the Transferee is not a party of reasonable financial worth and/or financial stability in light of the responsibilities to be undertaken in connection with the Transfer on the date consent is requested; or

14.2.4 The proposed Transfer would cause a violation of another lease for space in the Project, or would give an occupant of the Project a right to cancel its lease.

If Landlord consents to any Transfer pursuant to the terms of this Section 14.2 (and does not exercise any recapture rights Landlord may have under Section 14.4 of this Lease), Tenant may within six (6) months after Landlord's consent, but not later than the expiration of said six-month period, enter into such Transfer of the Premises or portion thereof, upon substantially the same terms and conditions as are set forth in the Transfer Notice furnished by Tenant to Landlord pursuant to Section 14.1 of this Lease, provided that if there are any changes in the terms and conditions from those specified in the Transfer Notice such that Landlord would initially have been entitled to refuse its consent to such Transfer under this Section 14.2, Tenant shall again submit the Transfer to Landlord for its approval and other action under this Article 14 (including Landlord's right of recapture, if any, under Section 14.4 of this Lease). Notwithstanding anything to the contrary in this Lease, if Tenant or any proposed Transferee claims that Landlord has unreasonably withheld or delayed its consent under Section 14.2 or otherwise has breached or acted unreasonably under this Article 14, their sole remedies shall be a suit for contract damages (other than damages for injury to, or interference with, Tenant's business including, without limitation, loss of profits, however occurring) or declaratory judgment and an injunction for the relief sought, and Tenant hereby waives all other remedies, including, without limitation, any right at law or equity to terminate this Lease, on its own behalf and, to the extent permitted under all applicable laws, on behalf of the proposed Transferee.

14.3 **Transfer Premium**. If Landlord consents to a Transfer, as a condition thereto which the parties hereby agree is reasonable, Tenant shall pay to Landlord fifty percent (50%) of any "**Transfer Premium**," as that term is defined in this Section 14.3, received by Tenant from such Transferee. "**Transfer Premium**" shall mean all rent, additional rent or other consideration payable by such Transferee in connection with the Transfer in excess of the Rent and Additional Rent payable by Tenant under this Lease during the term of the Transfer on a per rentable square foot basis if less than all of the Premises is transferred, and after deduction of (i) any costs of improvements made to the Subject Space in connection with such Transfer, (ii) brokerage commissions and reasonable marketing costs paid in connection with such Transfer, (iii) rent abatement granted to the Transferee, and (iii) reasonable legal fees incurred in connection with such Transfer. "**Transfer Premium**" shall also include, but not be limited to, key money and bonus money paid by Transferee to Tenant in connection with such Transfer, and any payment in excess of fair market value for services rendered by Tenant to Transferee or for assets, fixtures, inventory, equipment, or furniture transferred by Tenant to Transferee in connection with such Transfer, where the payment in excess of fair market value was made for the purpose of circumventing the obligation of Tenant to pay Landlord any amount due as a Transfer Premium for rental payments related to the Premises . For clarity, the Transfer Premium shall exclude any consideration payable by Transferee (and/or payable to Tenant) generally related to the Transfer itself (e.g. merger consideration, consideration for sale of assets, stock transfer, investments, financings, etc.) and unrelated to the Transferee's use of the Premises. The determination of the amount of Landlord's applicable share of the Transfer Premium shall be made on a monthly basis as rent or other consideration is received by Tenant under the Transfer.

14.4 **Landlord's Option as to Subject Space**. Notwithstanding anything to the contrary contained in this Article 14, in the event Tenant contemplates a Transfer which, together with all prior Transfers then remaining in effect, would cause fifty percent (50%) or more of the Premises to be Transferred for more than fifty percent (50%) of the then remaining Lease Term (taking into account any extension of the Lease Term which has irrevocably exercised by Tenant), Tenant shall give Landlord notice (the "**Intention to Transfer Notice**") of such contemplated Transfer (whether or not the contemplated Transferee or the terms of such contemplated Transfer have been determined). The Intention to Transfer Notice shall specify the portion of and amount of rentable square feet of the Premises which Tenant intends to Transfer (the "**Contemplated Transfer Space**"), the contemplated date of commencement of the Contemplated Transfer (the "**Contemplated Effective Date**"), and the contemplated length of the term of such contemplated Transfer, and shall specify that such Intention to Transfer Notice is delivered to Landlord pursuant to this Section 14.4 in order to allow Landlord to elect to recapture the Contemplated Transfer Space. Thereafter, Landlord

shall have the option, by giving written notice to Tenant within thirty (30) days after receipt of any Intention to Transfer Notice, to recapture the Contemplated Transfer Space. Such recapture shall cancel and terminate this Lease with respect to such Contemplated Transfer Space as of the Contemplated Effective Date. In the event of a recapture by Landlord, if this Lease shall be canceled with respect to less than the entire Premises, the Rent reserved herein shall be prorated on the basis of the number of rentable square feet retained by Tenant in proportion to the number of rentable square feet contained in the Premises, and this Lease as so amended shall continue thereafter in full force and effect, and upon request of either party, the parties shall execute written confirmation of the same. If Landlord declines, or fails to elect in a timely manner, to recapture such Contemplated Transfer Space under this Section 14.4, then, subject to the other terms of this Article 14, for a period of nine (9) months (the "**Nine Month Period**") commencing on the last day of such thirty (30) day period, Landlord shall not have any right to recapture the Contemplated Transfer Space with respect to any Transfer made during the Nine Month Period, provided that any such Transfer is substantially on the terms set forth in the Intention to Transfer Notice, and provided further that any such Transfer shall be subject to the remaining terms of this Article 14. If such a Transfer is not so consummated within the Nine Month Period (or if a Transfer is so consummated, then upon the expiration of the term of any Transfer of such Contemplated Transfer Space consummated within such Nine Month Period), Tenant shall again be required to submit a new Intention to Transfer Notice to Landlord with respect any contemplated Transfer, as provided above in this Section 14.4.

14.5 **Effect of Transfer**. If Landlord consents to a Transfer, (i) the terms and conditions of this Lease shall in no way be deemed to have been waived or modified, (ii) such consent shall not be deemed consent to any further Transfer by either Tenant or a Transferee, (iii) Tenant shall deliver to Landlord, promptly after execution, an original executed copy of all documentation pertaining to the Transfer in form reasonably acceptable to Landlord, (iv) Tenant shall furnish upon Landlord's request a complete statement, certified by an independent certified public accountant, or Tenant's chief financial officer, setting forth in detail the computation of any Transfer Premium Tenant has derived and shall derive from such Transfer, and (v) no Transfer relating to this Lease or agreement entered into with respect thereto, whether with or without Landlord's consent, shall relieve Tenant or any guarantor of the Lease from any liability under this Lease, including, without limitation, in connection with the Subject Space. Landlord or its authorized representatives shall have the right at all reasonable times to audit the books, records and papers of Tenant relating to any Transfer, and shall have the right to make copies thereof. If the Transfer Premium respecting any Transfer shall be found understated, Tenant shall, within thirty (30) days after demand, pay the deficiency, and if understated by more than five percent (5%), Tenant shall pay Landlord's costs of such audit.

14.6 **Additional Transfers**. For purposes of this Lease, the term "**Transfer**" shall also include (i) if Tenant is a partnership, the withdrawal or change, voluntary, involuntary or by operation of law, of fifty percent (50%) or more of the partners, or transfer of fifty percent (50%) or more of partnership interests, within a twelve (12)-month period, or the dissolution of the partnership without immediate reconstitution thereof, and (ii) if Tenant is a closely held corporation (*i.e.*, whose stock is not publicly held and not traded through an exchange or over the counter), (A) the dissolution, merger, consolidation or other reorganization of Tenant or (B) the sale or other transfer of an aggregate of fifty percent (50%) or more of the voting shares of Tenant (other than to immediate family members by reason of gift or death), within a twelve (12)-month period, or (C) the sale, mortgage, hypothecation or pledge of an aggregate of fifty percent (50%) or more of the value of the unencumbered assets of Tenant within a twelve (12)-month period.

14.7 **Occurrence of Default**. Any Transfer hereunder shall be subordinate and subject to the provisions of this Lease, and if this Lease shall be terminated during the term of any Transfer, Landlord shall have the right to: (i) treat such Transfer as cancelled and repossess the Subject Space by any lawful means, or (ii) require that such Transferee attorn to and recognize Landlord as its landlord under any such Transfer. If Tenant shall be in default under this Lease, Landlord is hereby irrevocably authorized, as Tenant's agent and attorney-in-fact, to direct any Transferee to make all payments under or in connection with the Transfer directly to Landlord (which Landlord shall apply towards Tenant's obligations under this Lease) until such default is cured. Such Transferee shall rely on any representation by Landlord that Tenant is in default hereunder, without any need for confirmation thereof by Tenant. Upon any assignment, the assignee shall assume in writing all obligations and covenants of Tenant thereafter to be performed or observed under this Lease. No collection or acceptance of rent by Landlord from any Transferee shall be deemed a waiver of any provision of this Article 14 or the approval of any Transferee or a release of Tenant from any obligation under this Lease, whether theretofore or thereafter accruing. In no event shall Landlord's enforcement of any provision of this Lease against any Transferee be deemed a waiver of Landlord's right to enforce any term of this Lease against Tenant

or any other person. If Tenant's obligations hereunder have been guaranteed, Landlord's consent to any Transfer shall not be effective unless the guarantor also consents to such Transfer.

14.8 **Non-Transfers**. Notwithstanding anything to the contrary contained in this Article 14, an assignment or subletting of all or a portion of the Premises to an affiliate of Tenant (an entity which is controlled by, controls, or is under common control with, Tenant), shall not be deemed a Transfer under this Article 14, provided that Tenant notifies Landlord of any such assignment or sublease and promptly supplies Landlord with any documents or information requested by Landlord regarding such assignment or sublease or such affiliate, and further provided that such assignment or sublease is not a subterfuge by Tenant to avoid its obligations under this Lease. "**Control**," as used in this Section 14.8, shall mean the ownership, directly or indirectly, of at least fifty-one percent (51%) of the voting securities of, or possession of the right to vote, in the ordinary direction of its affairs, of at least fifty-one percent (51%) of the voting interest in, any person or entity. No such permitted assignment or subletting shall serve to release Tenant from any of its obligations under this Lease.

14.9 **Pre-Approved Subtenant**. Subject to Landlord's approval of the applicable sublease documentation, which approval shall not unreasonably withheld, conditioned or delayed, Landlord hereby consents to Tenant's sublease of all or a portion of the Premises to Scilex Pharmaceuticals Inc, a Delaware corporation.

15. SURRENDER OF PREMISES; OWNERSHIP AND REMOVAL OF TRADE FIXTURES

15.1 **Surrender of Premises**. No act or thing done by Landlord or any agent or employee of Landlord during the Lease Term shall be deemed to constitute an acceptance by Landlord of a surrender of the Premises unless such intent is specifically acknowledged in writing by Landlord. The delivery of keys to the Premises to Landlord or any agent or employee of Landlord shall not constitute a surrender of the Premises or effect a termination of this Lease, whether or not the keys are thereafter retained by Landlord, and notwithstanding such delivery Tenant shall be entitled to the return of such keys at any reasonable time upon request until this Lease shall have been properly terminated. The voluntary or other surrender of this Lease by Tenant, whether accepted by Landlord or not, or a mutual termination hereof, shall not work a merger, and at the option of Landlord shall operate as an assignment to Landlord of all subleases or subtenancies affecting the Premises or terminate any or all such sublessees or subtenancies.

15.2 **Removal of Tenant Property by Tenant**. Upon the expiration of the Lease Term, or upon any earlier termination of this Lease, Tenant shall, subject to the provisions of this Article 15, quit and surrender possession of the Premises to Landlord in as good order and condition as when Tenant took possession and as thereafter improved by Landlord and/or Tenant, reasonable wear and tear and repairs which are specifically made the responsibility of Landlord hereunder excepted. Upon such expiration or termination, Tenant shall, without expense to Landlord, remove or cause to be removed from the Premises all debris and rubbish, and such items of furniture, equipment, free-standing cabinet work, movable partitions and other articles of personal property owned by Tenant or installed or placed by Tenant at its expense in the Premises, and such similar articles of any other persons claiming under Tenant, as Landlord may, in its sole discretion, require to be removed, and Tenant shall repair at its own expense all damage to the Premises and Building resulting from such removal.

15.3 **Environmental Assessment**. In connection with its surrender of the Premises, Tenant shall submit to Landlord, at least one hundred twenty (120) days prior to the expiration date of this Lease (or in the event of an earlier termination of this Lease, as soon as reasonably possible following such termination), an Environmental Assessment of the Premises by a competent and experienced environmental engineer or engineering firm reasonably satisfactory to Landlord (pursuant to a contract approved by Landlord and providing that Landlord can rely on the

Environmental Assessment), which (i) evidences that the Premises are in a clean and safe condition and free and clear of any Hazardous Materials brought onto the Project by Tenant or a Tenant Party; and (ii) includes a review of the Premises by an environmental consultant for asbestos, mold, fungus, spores, and other moisture conditions, on-site chemical use, and lead-based paint. If such Environmental Assessment reveals that remediation or Clean-up is required under any Environmental Laws, Tenant shall submit a remediation plan prepared by a recognized environmental consultant and shall be responsible for all costs of remediation and Clean-up, as more particularly provided in Section 5.3, above.

15.4 **Condition of the Building and Premises Upon Surrender**. In addition to the above requirements of this Article 15, upon the expiration of the Lease Term, or upon any earlier termination of this Lease, Tenant shall, surrender the Premises and Building such that the same are in compliance with all Applicable Laws (provided that Tenant will not be required to perform legal compliance upgrades which are subject to so called "grandfathering" provisions or which would not be triggered absent pulling a permit for construction) and with Tenant having complied with all of Tenant's obligations under this Lease, including those relating to improvement, repair, maintenance, compliance with law, testing and other related obligations of Tenant set forth in Article 7 of this Lease. In the event that the Building and Premises shall be surrendered in a condition which does not comply with the terms of this Section 15.4, because Tenant failed to comply with its obligations set forth in Lease, then following thirty (30) days notice to Tenant, during which thirty (30) day period Tenant shall have the right to cure such noncompliance, Landlord shall be entitled to expend all reasonable costs in order to cause the same to comply with the required condition upon surrender and Tenant shall immediately reimburse Landlord for all such costs upon notice and Tenant shall be deemed during the period that Tenant or Landlord, as the case may be, perform obligations relating to the Surrender Improvements to be in holdover under Article 16 of this Lease.

16. HOLDING OVER If Tenant holds over after the expiration of the Lease Term or earlier termination thereof, with the express or implied consent of Landlord, such tenancy shall be from month-to-month only, and shall not constitute a renewal hereof or an extension for any further term. If Tenant holds over after the expiration of the Lease Term of earlier termination thereof, without the express or implied consent of Landlord, such tenancy shall be deemed to be a tenancy by sufferance only, and shall not constitute a renewal hereof or an extension for any further term. In either case, Rent shall be payable at a monthly rate equal to one hundred fifty percent (150%) of the Rent applicable during the last rental period of the Lease Term under this Lease. Such month-to-month tenancy or tenancy by sufferance, as the case may be, shall be subject to every other applicable term, covenant and agreement contained herein. Nothing contained in this Article 16 shall be construed as consent by Landlord to any holding over by Tenant, and Landlord expressly reserves the right to require Tenant to surrender possession of the Premises to Landlord as provided in this Lease upon the expiration or other termination of this Lease. The provisions of this Article 16 shall not be deemed to limit or constitute a waiver of any other rights or remedies of Landlord provided herein or at law. If Tenant fails to surrender the Premises within thirty (30) days following the termination or expiration of this Lease, in addition to any other liabilities to Landlord accruing therefrom, Tenant shall protect, defend, indemnify and hold Landlord harmless from all loss, costs (including reasonable attorneys' fees) and liability resulting from such failure, including, without limiting the generality of the foregoing, any claims made by any succeeding tenant founded upon such failure to surrender and any lost profits to Landlord resulting therefrom.

17. ESTOPPEL CERTIFICATES Within ten (10) business days following a request in writing by Landlord ("**Initial Estoppel Request Period**"), Tenant shall execute, acknowledge and deliver to Landlord an estoppel certificate, which, as submitted by Landlord, shall be substantially in the form of **Exhibit D**, attached hereto (or such other form as may be required by any prospective mortgagee or purchaser of the Project, or any portion thereof), indicating therein any exceptions thereto that may exist at that time, and shall also contain any other information reasonably requested by Landlord or Landlord's mortgagee or prospective mortgagee. Any such certificate may be relied upon by any prospective mortgagee or purchaser of all or any portion of the Project. Tenant shall execute and deliver whatever other instruments may be reasonably required for such purposes. At any time during the Lease Term, Landlord may require Tenant to provide Landlord with a current financial statement and financial statements of the two (2) years prior to the current financial statement year. Such statements shall be prepared in accordance with generally accepted accounting principles and, if such is the normal practice of Tenant, shall be audited by an independent certified public accountant. If Tenant fails to deliver such estoppel certificate prior to the expiration of the Initial Estoppel Request Period, then Landlord shall provide written notice of the same to Tenant pursuant to Section 19.1.4

or Section 19.1.2, as applicable, below, and Tenant shall thereafter deliver such certificate to Landlord within the time period for cure set forth in such applicable Section. Failure of Tenant to timely execute, acknowledge and deliver such estoppel certificate or other instruments shall constitute an acceptance of the Premises and an acknowledgment by Tenant that statements included in the estoppel certificate are true and correct, without exception. Notwithstanding the foregoing, in the event that (i) stock in the entity which constitutes Tenant under this Lease (as opposed to an entity that "controls" Tenant or is otherwise an "affiliate" of Tenant, as those terms are defined in Section 14.8 of this Lease) is publicly traded on a national stock exchange, and (ii) Tenant has its own, separate and distinct 10K and 10Q filing requirements (as opposed joint or cumulative filings with an entity that controls Tenant or with entities which are otherwise Affiliates of Tenant), then Tenant's obligation to provide Landlord with a copy of its most recent current financial statement shall be deemed satisfied.

18. SUBORDINATION This Lease shall be subject and subordinate to all present and future ground or underlying leases of the Building or Project and to the lien of any mortgage, trust deed or other encumbrances now or hereafter in force against the Building or Project or any part thereof, if any, and to all renewals, extensions, modifications, consolidations and replacements thereof, and to all advances made or hereafter to be made upon the security of such mortgages or trust deeds, unless the holders of such mortgages, trust deeds or other encumbrances, or the lessors under such ground lease or underlying leases, require in writing that this Lease be superior thereto (collectively, the "**Superior Holders**"); provided, however, that in consideration of and a condition precedent to Tenant's agreement to subordinate this Lease to any future mortgage, trust deed or other encumbrances, shall be the receipt by Tenant of a commercially reasonable subordination non-disturbance and attornment agreement from such Superior Holder, which requires such Superior Holder to accept this lease, and not to disturb tenant's possession, so long as an event of default has not occurred and be continuing (a "SNDAA") executed by Landlord and the appropriate Superior Holder. Tenant covenants and agrees in the event any proceedings are brought for the foreclosure of any such mortgage or deed in lieu thereof (or if any ground lease is terminated), to attorn, without any deductions or set-offs whatsoever, to the lienholder or purchaser or any successors thereto upon any such foreclosure sale or deed in lieu thereof (or to the ground lessor), if so requested to do so by such purchaser or lienholder or ground lessor, and to recognize such purchaser or lienholder or ground lessor as the lessor under this Lease, provided such lienholder or purchaser or ground lessor shall agree to accept this Lease and not disturb Tenant's occupancy, so long as Tenant timely pays the rent and observes and performs the terms, covenants and conditions of this Lease to be observed and performed by Tenant. Landlord's interest herein may be assigned as security at any time to any lienholder. Tenant shall, within ten (10) days of request by Landlord, execute such further commercially reasonable instruments or assurances as Landlord may reasonably deem necessary to evidence or confirm the subordination or superiority of this Lease to any such mortgages, trust deeds, ground leases or underlying leases. Tenant waives the provisions of any current or future statute, rule or law which may give or purport to give Tenant any right or election to terminate or otherwise adversely affect this Lease and the obligations of the Tenant hereunder in the event of any foreclosure proceeding or sale.

19. DEFAULTS; REMEDIES

19.1 **Events of Default**. The occurrence of any of the following shall constitute a default of this Lease by Tenant:

19.1.1 Any failure by Tenant to pay any Rent or any other charge required to be paid under this Lease, or any part thereof, when due unless such failure is cured within five (5) business days after written notice of such failure; or

19.1.2 Except where a specific time period is otherwise set forth for Tenant's performance in this Lease, in which event the failure to perform by Tenant within such time period shall be a default by Tenant under this Section 19.1.2, any failure by Tenant to observe or perform any other provision, covenant or condition of this Lease to be observed or performed by Tenant where such failure continues for thirty (30) days after written notice thereof from Landlord to Tenant; provided that if the nature of such default is such that the same cannot reasonably be cured within a thirty (30) day period, Tenant shall not be deemed to be in default if it diligently commences such cure within such period and thereafter diligently proceeds to rectify and cure such default; or

19.1.3 Abandonment or vacation of all or a substantial portion of the Premises by Tenant; or

19.1.4 The failure by Tenant to observe or perform according to the provisions of Articles 5, 14, 17 or 18 of this Lease where such failure continues for more than five (5) business days after notice from Landlord (which, as it applies to Article 17, only if Landlord is required to provide the estoppel certificate in order to consummate any sale, financing or third party transaction, and otherwise Section 19.1.2 shall apply).

19.1.5 The notice periods provided herein are in lieu of, and not in addition to, any notice periods provided by law.

19.2 **Remedies Upon Default**. Upon the occurrence of any event of default by Tenant, Landlord shall have, in addition to any other remedies available to Landlord at law or in equity (all of which remedies shall be distinct, separate and cumulative), the option to pursue any one or more of the following remedies, each and all of which shall be cumulative and nonexclusive, without any notice or demand whatsoever.

19.2.1 Terminate this Lease, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, enter upon and take possession of the Premises and expel or remove Tenant and any other person who may be occupying the Premises or any part thereof, without being liable for prosecution or any claim or damages therefor; and Landlord may recover from Tenant the following:

(i) The worth at the time of award of the unpaid rent which has been earned at the time of such termination; plus

(ii) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iii) The worth at the time of award of the amount by which the unpaid rent for the balance of the Lease Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iv) Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom; and

(v) At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

The term "**rent**" as used in this Section 19.2 shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others. As used in Sections 19.2.1(i) and (ii), above, the "worth at the time of award" shall be computed by allowing interest at the rate set forth

in Article 25 of this Lease, but in no case greater than the maximum amount of such interest permitted by law. As used in Section 19.2.1(iii) above, the "**worth at the time of award**" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%).

19.2.2 Landlord shall have the remedy described in California Civil Code Section 1951.4 (lessor may continue lease in effect after lessee's breach and abandonment and recover rent as it becomes due, if lessee has the right to sublet or assign, subject only to reasonable limitations). Accordingly, if Landlord does not elect to terminate this Lease on account of any default by Tenant, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies under this Lease, including the right to recover all rent as it becomes due.

19.2.3 Landlord shall at all times have the rights and remedies (which shall be cumulative with each other and cumulative and in addition to those rights and remedies available under Sections 19.2.1 and 19.2.2, above, or any law or other provision of this Lease), without prior demand or notice except as required by applicable law, to seek any declaratory, injunctive or other equitable relief, and specifically enforce this Lease, or restrain or enjoin a violation or breach of any provision hereof.

19.3 **Subleases of Tenant**. Whether or not Landlord elects to terminate this Lease on account of any default by Tenant, as set forth in this Article 19, Landlord shall have the right to terminate any and all subleases, licenses, concessions or other consensual arrangements for possession entered into by Tenant and affecting the Premises or may, in Landlord's sole discretion, succeed to Tenant's interest in such subleases, licenses, concessions or arrangements. In the event of Landlord's election to succeed to Tenant's interest in any such subleases, licenses, concessions or arrangements, Tenant shall, as of the date of notice by Landlord of such election, have no further right to or interest in the rent or other consideration receivable thereunder.

19.4 **Efforts to Relet**. No re-entry or repossession, repairs, maintenance, changes, alterations and additions, reletting, appointment of a receiver to protect Landlord's interests hereunder, or any other action or omission by Landlord shall be construed as an election by Landlord to terminate this Lease or Tenant's right to possession, or to accept a surrender of the Premises, nor shall same operate to release Tenant in whole or in part from any of Tenant's obligations hereunder, unless express written notice of such intention is sent by Landlord to Tenant. Tenant hereby irrevocably waives any right otherwise available under any law to redeem or reinstate this Lease.

19.5 **Landlord Default**.

19.5.1 **General**. Notwithstanding anything to the contrary set forth in this Lease, Landlord shall not be in default in the performance of any obligation required to be performed by Landlord pursuant to this Lease unless Landlord fails to perform such obligation within thirty (30) days after the receipt of notice from Tenant specifying in detail Landlord's failure to perform; provided, however, if the nature of Landlord's obligation is such that more than thirty (30) days are required for its performance, then Landlord shall not be in default under this Lease if it shall commence such performance within such thirty (30) day period and thereafter diligently pursue the same to completion. Upon any such default by Landlord under this Lease, Tenant may, except as otherwise specifically provided in this Lease to the contrary, exercise any of its rights provided at law or in equity.

19.5.2 **Abatement of Rent**. In the event that Tenant is prevented from using, and does not use, the Premises or any portion thereof, as a result of (i) any repair, maintenance or alteration performed by Landlord, or which Landlord failed to perform, after the Lease Commencement Date and required by this Lease, which substantially interferes with Tenant's use of the Premises, or (ii) any failure to provide services, utilities or access to the Premises as required by this Lease, each as a direct result of Landlord's negligence or willful misconduct (and except to the extent such failure is caused in whole or in part by the action or inaction of Tenant) (either such set of circumstances as set forth in items (i) or (ii), above, to be known as an "**Abatement Event**"), then Tenant shall give Landlord notice of such Abatement Event, and if such Abatement Event continues for ten (10) consecutive business days after Landlord's receipt of any such notice (the "**Eligibility Period**") and Landlord does not diligently commence and pursue to completion the remedy of such Abatement Event, then the Base Rent, Tenant's Share of Direct Expenses, and Tenant's obligation, if any, to pay for parking (to the extent not utilized by Tenant) shall be abated or reduced, as the case may be, after expiration of the Eligibility Period for such time that Tenant continues to be so prevented from using, and does not use

for the normal conduct of Tenant's business, the Premises or a portion thereof, in the proportion that the rentable area of the portion of the Premises that Tenant is prevented from using, and does not use, bears to the total rentable area of the Premises; provided, however, in the event that Tenant is prevented from using, and does not use, a portion of the Premises for a period of time in excess of the Eligibility Period and the remaining portion of the Premises is not sufficient to allow Tenant to effectively conduct its business therein, and if Tenant does not effectively conduct its business from such remaining portion, then for such time after expiration of the Eligibility Period during which Tenant is so prevented from effectively conducting its business therein, the Base Rent and Tenant's Share of Direct Expenses for the entire Premises and Tenant's obligation to pay for parking shall be abated for such time as Tenant continues to be so prevented from using, and does not use, the Premises. If, however, Tenant reoccupies any portion of the Premises during such period, the Rent allocable to such reoccupied portion, based on the proportion that the rentable area of such reoccupied portion of the Premises bears to the total rentable area of the Premises, shall be payable by Tenant from the date Tenant reoccupies such portion of the Premises. To the extent an Abatement Event is caused by an event covered by Articles 5, 11 or 13 of this Lease, then Tenant's right to abate rent shall be governed by the terms of such Article 5, 11 or 13, as applicable, and the Eligibility Period shall not be applicable thereto. Such right to abate Base Rent and Tenant's Share of Direct Expenses shall be Tenant's sole and exclusive remedy for rent abatement at law or in equity for an Abatement Event. Except as expressly provided in this Lease, nothing contained herein shall be interpreted to mean that Tenant is excused from paying Rent due hereunder.

20. COVENANT OF QUIET ENJOYMENT Landlord covenants that Tenant, on paying the Rent, charges for services and other payments herein reserved and on keeping, observing and performing all the other terms, covenants, conditions, provisions and agreements herein contained on the part of Tenant to be kept, observed and performed, shall, during the Lease Term, peaceably and quietly have, hold and enjoy the Premises subject to the terms, covenants, conditions, provisions and agreements hereof without interference by any persons lawfully claiming by or through Landlord. The foregoing covenant is in lieu of any other covenant express or implied.

21. LETTER OF CREDIT

21.1 **Delivery of Letter of Credit**. Tenant shall deliver to Landlord concurrent with Tenant's execution of this Lease, as protection for the full and faithful performance by Tenant of all of its obligations under this Lease and for all losses and damages Landlord may suffer (or which Landlord reasonably estimates that it may suffer) as a result of any breach or default by Tenant under this Lease, an unconditional, clean, irrevocable negotiable standby letter of credit (the "**L-C**") in the amount set forth in Section 8 of the Summary (the "**L-C Amount**"), in the form attached hereto as **Exhibit G**, payable in the City of San Diego, California, running in favor of Landlord, drawn on a bank (the "**Bank**") reasonably approved by Landlord and which Bank at a minimum must have a rating from Standard and Poors Corporation of A- or better (or any equivalent rating thereto from any successor or substitute rating service selected by Landlord) and a letter of credit issuer rating from Moody's Investor Service of A3 or better (or any equivalent rating thereto from any successor rating agency thereto) (the "**Credit Rating Threshold**"), and otherwise conforming in all respects to the requirements of this Article 21, including, without limitation, all of the requirements of Section 21.2 below, all as set forth more particularly hereinbelow. Tenant shall pay all expenses, points and/or fees incurred by Tenant in obtaining and maintaining the L-C. In the event of an assignment by Tenant of its interest in the Lease (and irrespective of whether Landlord's consent is required for such assignment), the acceptance of any replacement or substitute letter of credit by Landlord from the assignee shall be subject to Landlord's prior written approval, in Landlord's reasonable discretion, and the attorney's fees incurred by Landlord in connection with such determination shall be payable by Tenant to Landlord within ten (10) days of billing.

21.2 **In General**. The L-C shall be "callable" at sight, permit partial draws and multiple presentations and drawings, and be otherwise subject to the Uniform Customs and Practices for Documentary Credits (1993-Rev), International Chamber of Commerce Publication #500, or the International Standby Practices-ISP 98, International Chamber of Commerce Publication #590. Tenant further covenants and warrants as follows:

21.2.1 **Landlord Right to Transfer**. The L-C shall provide that Landlord, its successors and assigns, may, at any time and without notice to Tenant and without first obtaining Tenant's consent thereto, transfer (one or more times) all or any portion of its interest in and to the L-C to another party, person or entity, regardless of whether or not such transfer is separate from or as a part of the assignment by Landlord of its rights and interests in

and to this Lease. In the event of a transfer of Landlord's interest in the Building, Landlord shall transfer the L-C, in whole or in part, to the transferee and thereupon Landlord shall, without any further agreement between the parties, be released by Tenant from all liability therefor, and it is agreed that the provisions hereof shall apply to every transfer or assignment of the whole or any portion of said L-C to a new landlord. In connection with any such transfer of the L-C by Landlord, Tenant shall, at Tenant's sole cost and expense, execute and submit to the Bank such applications, documents and instruments as may be necessary to effectuate such transfer, and Tenant shall be responsible for paying the Bank's transfer and processing fees in connection therewith.

21.2.2 **No Assignment by Tenant**. Tenant shall neither assign nor encumber the L-C or any part thereof. Neither Landlord nor its successors or assigns will be bound by any assignment, encumbrance, attempted assignment or attempted encumbrance by Tenant in violation of this Section.

21.2.3 **Replenishment**. If, as a result of any drawing by Landlord on the L-C pursuant to its rights set forth in Section 21.3 below, the amount of the L-C shall be less than the L-C Amount, Tenant shall, within five (5) days thereafter, provide Landlord with (i) an amendment to the L-C restoring such L-C to the L-C Amount or (ii) additional L-Cs in an amount equal to the deficiency, which additional L-Cs shall comply with all of the provisions of this Article 21, and if Tenant fails to comply with the foregoing, notwithstanding anything to the contrary contained in Section 19.1 above, the same shall constitute an incurable default by Tenant under this Lease (without the need for any additional notice and/or cure period).

21.2.4 **Renewal; Replacement**. If the L-C expires earlier than the date (the "**LC Expiration Date**") that is one hundred twenty (120) days after the expiration of the Lease Term, Tenant shall deliver a new L-C or certificate of renewal or extension to Landlord at least sixty (60) days prior to the expiration of the L-C then held by Landlord, without any action whatsoever on the part of Landlord, which new L-C shall be irrevocable and automatically renewable through the LC Expiration Date upon the same terms as the expiring L-C or such other terms as may be acceptable to Landlord in its sole discretion. In furtherance of the foregoing, Landlord and Tenant agree that the L-C shall contain a so-called "evergreen provision," whereby the L-C will automatically be renewed unless at least sixty (60) days' prior written notice of non-renewal is provided by the issuer to Landlord; provided, however, that the final expiration date identified in the L-C, beyond which the L-C shall not automatically renew, shall not be earlier than the LC Expiration Date.

21.2.5 **Bank's Financial Condition**. If, at any time during the Lease Term, the Bank's long term credit rating is reduced below the Credit Rating Threshold, or if the financial condition of the Bank changes in any other materially adverse way (either, a "**Bank Credit Threat**"), then Landlord shall have the right to require that Tenant obtain from a different issuer a substitute L-C that complies in all respects with the requirements of this Article 21, and Tenant's failure to obtain such substitute L-C within ten (10) days following Landlord's written demand therefor (with no other notice or cure or grace period being applicable thereto, notwithstanding anything in this Lease to the contrary) shall entitle Landlord, or Landlord's then managing agent, to immediately draw upon the then existing L- C in whole or in part, without notice to Tenant, as more specifically described in Section 21.3 below. Tenant shall be responsible for the payment of any and all costs incurred with the review of any replacement L-C (including without limitation Landlord's reasonable attorneys' fees), which replacement is required pursuant to this Section or is otherwise requested by Tenant.

21.3 **Application of Letter of Credit**. Tenant hereby acknowledges and agrees that Landlord is entering into this Lease in material reliance upon the ability of Landlord to draw upon the L-C as protection for the full and faithful performance by Tenant of all of its obligations under this Lease and for all losses and damages Landlord may suffer (or which Landlord reasonably estimates that it may suffer) as a result of any breach or default by Tenant under this Lease. Landlord, or its then managing agent, shall have the right to draw down an amount up to the face amount of the L-C (provided that if the amount to be drawn by Landlord is greater than the amount of all losses and damages Landlord may suffer (or which Landlord reasonably estimates that it may suffer) as a result of such breach or default by Tenant, then the amount drawn by Landlord must be reasonable under the then circumstances) if any of the following shall have occurred or be applicable: (A) such amount is due to Landlord under the terms and conditions of this Lease, or (B) Tenant has filed a voluntary petition under the U. S. Bankruptcy Code or any state bankruptcy code (collectively, "**Bankruptcy Code**"), or (C) an involuntary petition has been filed against Tenant under the Bankruptcy Code, or

(D) the Bank has notified Landlord that the L-C will not be renewed or extended through the LC Expiration Date, or (E) a Bank Credit Threat or Receivership (as such term is defined in Section 21.6.1 below) has occurred and Tenant has failed to comply with the requirements of either Section 21.2.5 above or 21.6 below, as applicable. If Tenant shall breach any provision of this Lease or otherwise be in default hereunder or if any of the foregoing events identified in Sections 21.3(B) through (E) shall have occurred, Landlord may, but without obligation to do so, and without notice to Tenant, draw upon the L-C, in part or in whole, and the proceeds may be applied by Landlord (i) to cure any breach or default of Tenant and/or to compensate Landlord for any and all damages of any kind or nature sustained or which Landlord reasonably estimates that it will sustain resulting from Tenant's breach or default, (ii) against any Rent payable by Tenant under this Lease that is not paid when due and/or (iii) to pay for all losses and damages that Landlord has suffered or that Landlord reasonably estimates that it will suffer as a result of any breach or default by Tenant under this Lease. The use, application or retention of the L-C, or any portion thereof, by Landlord shall not prevent Landlord from exercising any other right or remedy provided by this Lease or by any applicable law, it being intended that Landlord shall not first be required to proceed against the L-C, and shall not operate as a limitation on any recovery to which Landlord may otherwise be entitled. Tenant agrees not to interfere in any way with payment to Landlord of the proceeds of the L-C, either prior to or following a "draw" by Landlord of any portion of the L-C, regardless of whether any dispute exists between Tenant and Landlord as to Landlord's right to draw upon the L-C. No condition or term of this Lease shall be deemed to render the L-C conditional to justify the issuer of the L-C in failing to honor a drawing upon such L-C in a timely manner. Tenant agrees and acknowledges that (a) the L-C constitutes a separate and independent contract between Landlord and the Bank, (b) Tenant is not a third party beneficiary of such contract, (c) Tenant has no property interest whatsoever in the L-C or the proceeds thereof, and (d) in the event Tenant becomes a debtor under any chapter of the Bankruptcy Code, neither Tenant, any trustee, nor Tenant's bankruptcy estate shall have any right to restrict or limit Landlord's claim and/or rights to the L-C and/or the proceeds thereof by application of Section 502(b)(6) of the U. S. Bankruptcy Code or otherwise.

21.4 **Letter of Credit not a Security Deposit**. Landlord and Tenant acknowledge and agree that in no event or circumstance shall the L-C or any renewal thereof or any proceeds thereof be (i) deemed to be or treated as a "security deposit" within the meaning of California Civil Code Section 1950.7, (ii) subject to the terms of such Section 1950.7, or (iii) intended to serve as a "security deposit" within the meaning of such Section 1950.7. The parties hereto (A) recite that the L-C is not intended to serve as a security deposit and such Section 1950.7 and any and all other laws, rules and regulations applicable to security deposits in the commercial context ("**Security Deposit Laws**") shall have no applicability or relevancy thereto and (B) waive any and all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws.

21.5 **Proceeds of Draw**. In the event Landlord draws down on the L-C pursuant to Section 21.3(D) or (E) above, the proceeds of the L-C may be held by Landlord and applied by Landlord against any Rent payable by Tenant under this Lease that is not paid when due and/or to pay for all losses and damages that Landlord has suffered or that Landlord reasonably estimates that it will suffer as a result of any breach or default by Tenant under this Lease. Any unused proceeds shall constitute the property of Landlord and need not be segregated from Landlord's other assets. Tenant hereby (i) agrees that (A) Tenant has no property interest whatsoever in the proceeds from any such draw, and (B) such proceeds shall not be deemed to be or treated as a "security deposit" under the Security Deposit Law, and (ii) waives all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws. Landlord agrees that the amount of any proceeds of the L-C received by Landlord, and not (a) applied against any Rent payable by Tenant under this Lease that was not paid when due or (b) used to pay for any losses and/or damages suffered by Landlord (or reasonably estimated by Landlord that it will suffer) as a result of any breach or default by Tenant under this Lease (the "**Unused L-C Proceeds**"), shall be paid by Landlord to Tenant (x) upon receipt by Landlord of a replacement L-C in the full L-C Amount, which replacement L-C shall comply in all respects with the requirements of this Article 21, or (y) within thirty (30) days after the LC Expiration Date; provided, however, that if prior to the LC Expiration Date a voluntary petition is filed by Tenant, or an involuntary petition is filed against Tenant by any of Tenant's creditors, under the Bankruptcy Code, then Landlord shall not be obligated to make such payment in the amount of the Unused L-C Proceeds until either all preference issues relating to payments under this Lease have been resolved in such bankruptcy or reorganization case or such bankruptcy or reorganization case has been dismissed.

21.6 **Bank Placed Into Receivership**.

21.6.1 **Bank Placed Into Receivership**. In the event the Bank is placed into receivership or conservatorship (any such event, a "**Receivership**") by the Federal Deposit Insurance Corporation or any successor or similar entity (the "**FDIC**"), then, effective as of the date such Receivership occurs, the L-C shall be deemed to not meet the requirements of this Article 21, and, within ten (10) days following Landlord's notice to Tenant of such Receivership (the "**LC Replacement Notice**"), Tenant shall replace the L-C with a substitute L-C from a different issuer reasonably acceptable to Landlord and that complies in all respects with the requirements of this Article 21. If Tenant fails to replace such L-C with a substitute L-C from a different issuer pursuant to the terms and conditions of this Section 21.6.1, then, notwithstanding anything in this Lease to the contrary, Landlord shall have the right, at Landlord's option, to either (i) declare Tenant in default of this Lease for which there shall be no notice or grace or cure periods being applicable thereto other than the aforesaid ten (10) day period), in which event, Landlord shall have the right to pursue any and all remedies available to it under this Lease and at law, including, without limitation, treating any Receivership as a Bank Credit Threat and exercising Landlord's remedies under Section 21.2.5 above, to the extent possible pursuant to then existing FDIC policy; or (ii) elect to increase the Base Rent due and owing under the terms of this Lease pursuant to the terms and conditions of Section 21.6.2, below. Tenant shall be responsible for the payment of any and all costs incurred with the review of any replacement L- C (including without limitation Landlord's reasonable attorneys' fees), which replacement is required pursuant to this Section or is otherwise requested by Tenant.

21.6.2 **FAILURE TO REPLACE L-C; LIQUIDATED DAMAGES**. IN THE EVENT THAT TENANT FAILS TO REPLACE THE L-C PURSUANT TO, AND WITHIN THE TIME PERIODS SET FORTH IN, SECTION 21.6.1 OF THIS LEASE, ABOVE, THEN TENANT'S MONTHLY INSTALLMENT OF BASE RENT SHALL BE INCREASED TO ONE HUNDRED TEN PERCENT (110%) OF ITS THEN EXISTING LEVEL DURING THE PERIOD COMMENCING ON THE DATE THAT OCCURS TEN (10) DAYS FOLLOWING THE DATE TENANT RECEIVES THE LC REPLACEMENT NOTICE AND ENDING ON THE EARLIER TO OCCUR OF (I) THE DATE SUCH REPLACEMENT L-C IS DELIVERED TO LANDLORD PURSUANT TO THE TERMS OF SECTION 21.6.1, OR (II) THE DATE WHICH IS NINETY (90) DAYS AFTER THE DATE OF SUCH LC REPLACEMENT NOTICE. IN THE EVENT THAT TENANT FAILS, DURING SUCH NINETY (90) DAY PERIOD FOLLOWING THE DATE OF THE LC REPLACEMENT NOTICE, TO CAUSE THE REPLACEMENT L-C TO BE DELIVERED TO LANDLORD PURSUANT TO THE TERMS OF SECTION 21.6.1, THEN TENANT'S MONTHLY INSTALLMENT OF BASE RENT SHALL BE INCREASED TO ONE HUNDRED TWENTY-FIVE PERCENT (125%) OF ITS THEN EXISTING LEVEL DURING THE PERIOD COMMENCING ON THE DATE WHICH IS NINETY (90) DAYS AFTER THE DATE OF SUCH LC REPLACEMENT NOTICE AND ENDING ON THE DATE SUCH REPLACEMENT L-C IS DELIVERED TO LANDLORD PURSUANT TO THE TERMS OF SECTION 21.6.1, PROVIDED, HOWEVER, THAT THE TOTAL AGGREGATE AMOUNT OF BASE RENT PAID BY TENANT IN EXCESS OF THE AMOUNT OF BASE RENT THAT TENANT WOULD HAVE PAID HAD SUCH L-C REPLACEMENT FAILURE NEVER OCCURRED SHALL IN NO EVENT EXCEED THE L-C AMOUNT. THE PARTIES AGREE THAT IT WOULD BE IMPRACTICABLE AND EXTREMELY DIFFICULT TO ASCERTAIN THE ACTUAL DAMAGES SUFFERED BY LANDLORD AS A RESULT OF TENANT'S FAILURE TO TIMELY REPLACE THE L-C FOLLOWING THE LC REPLACEMENT NOTICE AS REQUIRED IN SECTION 21.6.1, AND THAT UNDER THE CIRCUMSTANCES EXISTING AS OF THE DATE OF THIS LEASE, THE LIQUIDATED DAMAGES PROVIDED FOR IN THIS SECTION 21.6.2 REPRESENT A REASONABLE ESTIMATE OF THE DAMAGES WHICH LANDLORD WILL INCUR AS A RESULT OF SUCH FAILURE, PROVIDED, HOWEVER, THAT THIS PROVISION SHALL NOT WAIVE OR AFFECT LANDLORD'S RIGHTS AND TENANT'S INDEMNITY OBLIGATIONS UNDER OTHER SECTIONS OF THIS LEASE. THE PARTIES ACKNOWLEDGE THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES IS NOT INTENDED AS A FORFEITURE OR PENALTY WITHIN THE MEANING OF CALIFORNIA CIVIL CODE SECTION 3275 OR 3369, BUT IS INTENDED TO CONSTITUTE LIQUIDATED DAMAGES TO LANDLORD PURSUANT TO CALIFORNIA CIVIL CODE SECTION 1671. THE PARTIES HAVE SET FORTH THEIR INITIALS BELOW TO INDICATE THEIR AGREEMENT WITH THE LIQUIDATED DAMAGES PROVISION CONTAINED IN THIS SECTION 21.6.2.

/s/ MD /s/ HJ

LANDLORD'S INITIALS TENANT'S INITIALS

22. COMMUNICATIONS AND COMPUTER LINE Tenant may install, maintain, replace, remove or use any communications or computer wires and cables serving the Premises (collectively, the "**Lines**"), provided that Tenant shall obtain Landlord's prior written consent, use an experienced and qualified contractor approved in writing by Landlord, and comply with all of the other provisions of Articles 7 and 8 of this Lease. Tenant shall pay all costs in connection therewith. Landlord reserves the right, upon notice to Tenant prior to the expiration or earlier termination of this Lease, to require that Tenant, at Tenant's sole cost and expense, remove any Lines located in or serving the Premises prior to the expiration or earlier termination of this Lease.

23. SIGNS

23.1 **Exterior Signage**. Subject to Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed, and provided all signs are in keeping with the quality, design and style of the Building and Project, Tenant, at its sole cost and expense (but without payment of Rent or other fee in lieu of Rent for such signage (other than Direct Expenses to the extent allowed pursuant to the terms of Article 4 of this Lease)), may install identification signage (i) on the interior of the Building (including interior directional, lobby and/or directory signage), (ii) exterior Building top signage, (iii) one signage strip on the monument sign serving the Project facing Director's Place, and (iv) exclusive monument signage on the monument sign facing the 805 Freeway (collectively, "**Tenant Signage**"); provided, however, in no event shall Tenant's Signage include an "Objectionable Name," as that term is defined in Section 23.3, of this Lease. All such signage shall be subject to Tenant's obtaining all required governmental approvals. All permitted signs shall be maintained by Tenant at its expense in a first-class and safe condition and appearance. Upon the expiration or earlier termination of this Lease, Tenant shall remove all of its signs at Tenant's sole cost and expense. The graphics, materials, color, design, lettering, lighting, size, illumination, specifications and exact location of Tenant's Signage (collectively, the "**Sign Specifications**") shall be subject to the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed, and shall be consistent and compatible with the quality and nature of the Project. Tenant hereby acknowledges that, notwithstanding Landlord's approval of Tenant's Signage, Landlord has made no representation or warranty to Tenant with respect to the probability of obtaining all necessary governmental approvals and permits for Tenant's Signage. In the event Tenant does not receive the necessary governmental approvals and permits for Tenant's Signage, Tenant's and Landlord's rights and obligations under the remaining terms and conditions of this Lease shall be unaffected.

23.2 **Objectionable Name**. Tenant's Signage shall not include a name or logo which relates to an entity which is of a character or reputation, or is associated with a political faction or orientation, which is inconsistent with the quality of the Project, or which would otherwise reasonably offend a landlord of the Comparable Buildings (an "**Objectionable Name**"). The parties hereby agree that the following names, or any reasonable derivation thereof, shall be deemed not to constitute an Objectionable Name: "SCILEX Pharmaceuticals" and "Sorrento Therapeutics."

23.3 **Prohibited Signage and Other Items**. Any signs, notices, logos, pictures, names or advertisements which are installed and that have not been separately approved by Landlord may be removed without notice by Landlord at the sole expense of Tenant. Any signs, window coverings, or blinds (even if the same are located behind the Landlord-approved window coverings for the Building), or other items visible from the exterior of the Premises or Building, shall be subject to the prior approval of Landlord, in its sole discretion.

23.4 **Termination of Right to Tenant's Signage**. The rights contained in this Article 23 shall be personal to Original Tenant and its Permitted Assignee, and may only be exercised and maintained by such parties (and not any other assignee, sublessee or other transferee of the Original Tenant's interest in this Lease) to the extent (*x*) they are not in default under this Lease (beyond any applicable notice and cure period) ***and*** (y) if they occupy the entire Premises.

24. COMPLIANCE WITH LAW Tenant shall not do anything or suffer anything to be done in or about the Premises or the Project which will in any way conflict with any law, statute, ordinance or other governmental rule, regulation or requirement now in force or which may hereafter be enacted or promulgated (collectively, "**Applicable Laws**"). At its sole cost and expense, Tenant shall promptly comply with any Applicable Laws which relate to (i) Tenant's use of the Premises, (ii) any Alterations made by Tenant to the Premises, and, after their construction, any Tenant Improvements in the Premises, or (iii) the Base Building, but as to the Base Building, only to the extent such obligations are triggered by Alterations made by Tenant to the Premises to the extent such Alterations are not normal

and customary improvements for the Permitted Use, or triggered by the Tenant Improvements to the extent such Tenant Improvements are not normal and customary improvements for the Permitted Use, or triggered by Tenant's use of the Premises for non Permitted Use (collectively, "**Tenant's Compliance Obligations**"). Should any standard or regulation now or hereafter be imposed on Landlord or Tenant by a state, federal or local governmental body charged with the establishment, regulation and enforcement of occupational, health or safety standards for employers, employees, landlords or tenants, then Tenant and Landlord each agree, at each such party's sole cost and expense, to comply promptly with such standards or regulations applicable to each such party. Tenant shall be responsible, at its sole cost and expense, to make all alterations to the Building and Premises as are required to comply with Tenant's Compliance Obligations. The judgment of any court of competent jurisdiction or the admission of Tenant in any judicial action, regardless of whether Landlord is a party thereto, that Tenant has violated any of said governmental measures, shall be conclusive of that fact as between Landlord and Tenant. Notwithstanding anything to the contrary in this Article 24, Landlord covenants to comply with the "Landlord Initial Compliance Obligations," as that term is defined in Section 1 of the Tenant Work Letter, as of the Lease Commencement Date, and Landlord shall be responsible to promptly cure, at its sole cost, any noncompliance of the Premises as of the Lease Commencement Date with such foregoing covenant. For purposes of Section 1938 of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Project, Building and Premises have not undergone inspection by a Certified Access Specialist (CASp). As required by Section 1938(e) of the California Civil Code, Landlord hereby states as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." In furtherance of the foregoing, Landlord and Tenant hereby agree as follows: (a) any CASp inspection requested by Tenant shall be conducted, at Tenant's sole cost and expense, by a CASp approved in advance by Landlord; and (b) pursuant to Article 24 below, Tenant, at its cost, is responsible for making any repairs within the Premises to correct violations of construction-related accessibility standards; and, if anything done by or for Tenant in its use or occupancy of the Premises shall require repairs to the Building (outside the Premises) to correct violations of construction-related accessibility standards, then Tenant shall, at Landlord's option, either perform such repairs at Tenant's sole cost and expense or reimburse Landlord upon demand, as Additional Rent, for the cost to Landlord of performing such repairs.

25. LATE CHARGES If any installment of Rent or any other sum due from Tenant shall not be received by Landlord or Landlord's designee within five (5) business days after Tenant's receipt of written notice from Landlord that said amount is due, then Tenant shall pay to Landlord a late charge equal to five percent (5%) of the overdue amount plus any reasonable attorneys' fees incurred by Landlord by reason of Tenant's failure to pay Rent and/or other charges when due hereunder. The late charge shall be deemed Additional Rent and the right to require it shall be in addition to all of Landlord's other rights and remedies hereunder or at law and shall not be construed as liquidated damages or as limiting Landlord's remedies in any manner. In addition to the late charge described above, any Rent or other amounts owing hereunder which are not paid within ten (10) days after the date they are due shall bear interest from the date when due until paid at a rate per annum equal to the lesser of (i) the annual "Bank Prime Loan" rate cited in the Federal Reserve Statistical Release Publication G.13(415), published on the first Tuesday of each calendar month (or such other comparable index as Landlord and Tenant shall reasonably agree upon if such rate ceases to be published) plus four (4) percentage points, and (ii) the highest rate permitted by applicable law (the "**Default Rate**").

26. LANDLORD'S RIGHT TO CURE DEFAULT; PAYMENTS BY TENANT

26.1 **Landlord's Cure**. All covenants and agreements to be kept or performed by Tenant under this Lease shall be performed by Tenant at Tenant's sole cost and expense and without any reduction of Rent, except to the extent, if any, otherwise expressly provided herein. If Tenant shall fail to perform any obligation under this Lease, and such failure shall continue in excess of the time allowed under Section 19.1.2, above, unless a specific time period is otherwise stated in this Lease, Landlord may, but shall not be obligated to, make any such payment or perform any such act on Tenant's part without waiving its rights based upon any default of Tenant and without releasing Tenant from any obligations hereunder.

26.2 **Tenant's Reimbursement**. Except as may be specifically provided to the contrary in this Lease, Tenant shall pay to Landlord, upon delivery by Landlord to Tenant of statements therefor: (i) sums equal to expenditures reasonably made and obligations incurred by Landlord in connection with the remedying by Landlord of Tenant's defaults pursuant to the provisions of Section 26.1; (ii) sums equal to all losses, costs, liabilities, damages and expenses referred to in Article 10 of this Lease; and (iii) sums equal to all expenditures made and obligations incurred by Landlord in collecting or attempting to collect the Rent or in enforcing or attempting to enforce any rights of Landlord under this Lease or pursuant to law, including, without limitation, all reasonable legal fees and other amounts so expended. Tenant's obligations under this Section 26.2 shall survive the expiration or sooner termination of the Lease Term.

27. ENTRY BY LANDLORD Landlord reserves the right at all reasonable times and upon reasonable notice to Tenant (which shall not be less than twenty-four (24) hours except in the case of an emergency) to enter the Premises to (i) inspect them; (ii) show the Premises to prospective purchasers, or to current or prospective mortgagees, ground or underlying lessors or insurers or, during the last twelve (12) months of the Lease Term, to prospective tenants; (iii) post notices of nonresponsibility (to the extent applicable pursuant to then applicable law); or (iv) alter, improve or repair the Premises or the Building, or for structural alterations, repairs or improvements to the Building or the Building's systems and equipment. Landlord may make any such entries without the abatement of Rent, except as otherwise provided in Section 19.5.2 of this Lease, and may take such reasonable steps as required to accomplish the stated purposes. Landlord shall use commercially reasonable efforts to minimize interference with the conduct of Tenant's business in connection with such entries into the Premises. In an emergency, Landlord shall have the right to use any means that Landlord may deem proper to open the doors in and to the Premises. To the extent reasonably necessary, Landlord may temporarily close all or a portion of the Premises to perform repairs under this Lease and Tenant shall not have any right to terminate this Lease or abate Rent (except as otherwise provided in Section 19.5.2 of this Lease) or assert a claim of partial or constructive eviction because of any such closure (provided that Landlord shall perform any such repairs outside of normal business hours to the extent reasonably possible). Any entry into the Premises by Landlord in the manner hereinbefore described shall not be deemed to be a forcible or unlawful entry into, or a detainer of, the Premises, or an actual or constructive eviction of Tenant from any portion of the Premises.

28. TENANT PARKING Tenant shall have the right to, at no additional rent or cost to Tenant (other than such costs and expenses include in Direct Expenses), use the parking set forth in Section 9 of the Summary. Tenant shall abide by all reasonable rules and regulations which are prescribed from time to time for the orderly operation and use of the parking facility where the parking passes are located (including any sticker or other identification system established by Landlord and the prohibition of vehicle repair and maintenance activities in the parking facilities), and shall cooperate in seeing that Tenant's employees and visitors also comply with such rules and regulations. Tenant's use of the Project parking facility shall be at Tenant's sole risk and Tenant acknowledges and agrees that Landlord shall have no liability whatsoever for damage to the vehicles of Tenant, its employees and/or visitors, or for other personal injury or property damage or theft relating to or connected with the parking rights granted herein or any of Tenant's, its employees' and/or visitors' use of the parking facilities.

29. MISCELLANEOUS PROVISIONS

29.1 **Terms; Captions**. The words "**Landlord**" and "**Tenant**" as used herein shall include the plural as well as the singular. The necessary grammatical changes required to make the provisions hereof apply either to corporations or partnerships or individuals, men or women, as the case may require, shall in all cases be assumed as though in each case fully expressed. The captions of Articles and Sections are for convenience only and shall not be deemed to limit, construe, affect or alter the meaning of such Articles and Sections.

29.2 **Binding Effect**. Subject to all other provisions of this Lease, each of the covenants, conditions and provisions of this Lease shall extend to and shall, as the case may require, bind or inure to the benefit not only of Landlord and of Tenant, but also of their respective heirs, personal representatives, successors or assigns, provided this clause shall not permit any assignment by Tenant contrary to the provisions of Article 14 of this Lease.

29.3 **No Air Rights**. No rights to any view or to light or air over any property, whether belonging to Landlord or any other person, are granted to Tenant by this Lease. If at any time any windows of the Premises are temporarily darkened or the light or view therefrom is obstructed by reason of any repairs, improvements, maintenance or cleaning in or about the Project, the same shall be without liability to Landlord and without any reduction or diminution of Tenant's obligations under this Lease.

29.4 **Modification of Lease**. Should any current or prospective mortgagee or ground lessor for the Building or Project require a modification of this Lease, which modification will not cause an increased cost or expense to Tenant or in any other way materially and adversely change the rights and obligations of Tenant hereunder, then and in such event, Tenant agrees that this Lease may be so modified and agrees to execute whatever documents are reasonably required therefor and to deliver the same to Landlord within ten (10) business days following a request therefor. At the request of Landlord or any mortgagee or ground lessor, Tenant agrees to execute a short form of Lease and deliver the same to Landlord within ten (10) business days following the request therefor.

29.5 **Transfer of Landlord's Interest**. Tenant acknowledges that Landlord has the right to transfer all or any portion of its interest in the Project or Building and in this Lease, and Tenant agrees that in the event of any such transfer, Landlord shall automatically be released from all liability under this Lease and Tenant agrees to look solely to such transferee for the performance of Landlord's obligations hereunder after the date of transfer and such transferee shall be deemed to have fully assumed and be liable for all obligations of this Lease to be performed by Landlord, including the return of any Security Deposit (provided Landlord transfers the Security Deposit to such transferee), and Tenant shall attorn to such transferee.

29.6 **Prohibition Against Recording**. Except as provided in Section 29.4 of this Lease, neither this Lease, nor any memorandum, affidavit or other writing with respect thereto, shall be recorded by Tenant or by anyone acting through, under or on behalf of Tenant.

29.7 **Landlord's Title**. Landlord's title is and always shall be paramount to the title of Tenant. Nothing herein contained shall empower Tenant to do any act which can, shall or may encumber the title of Landlord.

29.8 **Relationship of Parties**. Nothing contained in this Lease shall be deemed or construed by the parties hereto or by any third party to create the relationship of principal and agent, partnership, joint venturer or any association between Landlord and Tenant.

29.9 **Application of Payments**. Landlord shall have the right to apply payments received from Tenant pursuant to this Lease, regardless of Tenant's designation of such payments, to satisfy any obligations of Tenant hereunder, in such order and amounts as Landlord, in its sole discretion, may elect.

29.10 **Time of Essence**. Time is of the essence with respect to the performance of every provision of this Lease in which time of performance is a factor.

29.11 **Partial Invalidity**. If any term, provision or condition contained in this Lease shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term, provision or condition to persons or circumstances other than those with respect to which it is invalid or unenforceable, shall not be affected thereby, and each and every other term, provision and condition of this Lease shall be valid and enforceable to the fullest extent possible permitted by law.

29.12 **No Warranty**. In executing and delivering this Lease, Tenant has not relied on any representations, including, but not limited to, any representation as to the amount of any item comprising Additional Rent or the amount of the Additional Rent in the aggregate or that Landlord is furnishing the same services to other tenants, at all, on the

same level or on the same basis, or any warranty or any statement of Landlord which is not set forth herein or in one or more of the exhibits attached hereto.

29.13 **Landlord Exculpation**. The liability of Landlord or the Landlord Parties to Tenant for any default by Landlord under this Lease or arising in connection herewith or with Landlord's operation, management, leasing, repair, renovation, alteration or any other matter relating to the Project or the Premises shall be limited solely and exclusively to an amount which is equal to the lesser of (a) the interest of Landlord in the Project or (b) the equity interest Landlord would have in the Project if the Project were encumbered by third-party debt in an amount equal to seventy percent (70%) of the value of the Project, including any net sales or insurance proceeds received by Landlord or the Landlord Parties in connection with the Project, Building or Premises. Neither Landlord, nor any of the Landlord Parties shall have any personal liability therefor, and Tenant hereby expressly waives and releases such personal liability on behalf of itself and all persons claiming by, through or under Tenant. The limitations of liability contained in this Section 29.13 shall inure to the benefit of Landlord's and the Landlord Parties' present and future partners, beneficiaries, officers, directors, trustees, shareholders, agents and employees, and their respective partners, heirs, successors and assigns. Under no circumstances shall any present or future partner of Landlord (if Landlord is a partnership), or trustee or beneficiary (if Landlord or any partner of Landlord is a trust), have any liability for the performance of Landlord's obligations under this Lease. Notwithstanding any contrary provision herein, neither Landlord nor the Landlord Parties shall be liable under any circumstances for injury or damage to, or interference with, Tenant's business, including but not limited to, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, in each case, however occurring, or loss to inventory, scientific research, scientific experiments, laboratory animals, products, specimens, samples, and/or scientific, business, accounting and other records of every kind and description kept at the premises and any and all income derived or derivable therefrom. . Notwithstanding anything to the contrary set forth in this Lease, in no event shall Tenant be liable to Landlord for any consequential or remote damages, except for (i) consequential damages expressly provided for in Article 16 of the Lease with regard to Tenant’s failure to timely surrender the Premises to Landlord and (ii) damages caused to Landlord as a result of Tenant's breach of the terms and conditions of Section 5.3 of this Lease, above. In no event shall any damages expressly provided for in Section 19.2.1 above be deemed consequential or remote damages.

29.14 **Entire Agreement**. It is understood and acknowledged that there are no oral agreements between the parties hereto affecting this Lease and this Lease constitutes the parties' entire agreement with respect to the leasing of the Premises and supersedes and cancels any and all previous negotiations, arrangements, brochures, agreements and understandings, if any, between the parties hereto or displayed by Landlord to Tenant with respect to the subject matter thereof, and none thereof shall be used to interpret or construe this Lease. None of the terms, covenants, conditions or provisions of this Lease can be modified, deleted or added to except in writing signed by the parties hereto.

29.15 **Right to Lease**. Landlord reserves the absolute right to effect such other tenancies in the Project as Landlord in the exercise of its sole business judgment shall determine to best promote the interests of the Building or Project. Tenant does not rely on the fact, nor does Landlord represent, that any specific tenant or type or number of tenants shall, during the Lease Term, occupy any space in the Building or Project.

29.16 **Force Majeure**. Any prevention, delay or stoppage due to strikes, lockouts, labor disputes, acts of God, acts of war, terrorist acts, inability to obtain services, labor, or materials or reasonable substitutes therefor, governmental actions, civil commotions, fire or other casualty, and other causes beyond the reasonable control of the party obligated to perform, except with respect to the obligations imposed with regard to Rent and other charges to be paid by Tenant pursuant to this Lease (collectively, a "**Force Majeure**"), notwithstanding anything to the contrary contained in this Lease, shall excuse the performance of such party for a period equal to any such prevention, delay or stoppage and, therefore, if this Lease specifies a time period for performance of an obligation of either party, that time period shall be extended by the period of any delay in such party's performance caused by a Force Majeure.

29.17 **Waiver of Redemption by Tenant**. Tenant hereby waives, for Tenant and for all those claiming under Tenant, any and all rights now or hereafter existing to redeem by order or judgment of any court or by any legal process or writ, Tenant's right of occupancy of the Premises after any termination of this Lease.

29.18 **Notices**. All notices, demands, statements, designations, approvals or other communications (collectively, "**Notices**") given or required to be given by either party to the other hereunder or by law shall be in writing, shall be (A) sent by United States certified or registered mail, postage prepaid, return receipt requested ("**Mail**"), (B) transmitted by telecopy, if such telecopy is promptly followed by a Notice sent by Mail, (C) delivered by a nationally recognized overnight courier, or (D) delivered personally. Any Notice shall be sent, transmitted, or delivered, as the case may be, to Tenant at the appropriate address set forth in Section 10 of the Summary, or to such other place as Tenant may from time to time designate in a Notice to Landlord, or to Landlord at the addresses set forth below, or to such other places as Landlord may from time to time designate in a Notice to Tenant. Any Notice will be deemed given (i) three (3) days after the date it is posted if sent by Mail, (ii) the date the telecopy is transmitted, (iii) the date the overnight courier delivery is made, or (iv) the date personal delivery is made. As of the date of this Lease, any Notices to Landlord must be sent, transmitted, or delivered, as the case may be, to the following addresses:

HCP Life Science Estates, Inc.
c/o HCP, Inc.
420 Stevens Avenue, Suite 170
Solana Beach, California 92075
Attention: Mike Dorris

with a copy to:

HCP Life Science Estates, Inc.
c/o HCP, Inc.
1920 Main Street, Suite 1200
Irvine, CA 92614
Attn: Legal Department

and

Allen Matkins Leck Gamble Mallory & Natsis LLP
1901 Avenue of the Stars, Suite 1800
Los Angeles, California 90067
Attention: Anton N. Natsis, Esq.

29.19 **Joint and Several**. If there is more than one tenant, the obligations imposed upon Tenant under this Lease shall be joint and several.

29.20 **Authority**. If Tenant is a corporation, trust or partnership, each individual executing this Lease on behalf of Tenant hereby represents and warrants that Tenant is a duly formed and existing entity qualified to do business in the State of California and that Tenant has full right and authority to execute and deliver this Lease and that each person signing on behalf of Tenant is authorized to do so. In such event, Tenant shall, within ten (10) days after execution of this Lease, deliver to Landlord satisfactory evidence of such authority and, if a corporation, upon demand by Landlord, also deliver to Landlord satisfactory evidence of (i) good standing in Tenant's state of incorporation and (ii) qualification to do business in the State of California.

29.21 **Attorneys' Fees**. In the event that either Landlord or Tenant should bring suit for the possession of the Premises, for the recovery of any sum due under this Lease, or because of the breach of any provision of this Lease or for any other relief against the other, then all costs and expenses, including reasonable attorneys' fees, incurred by the prevailing party therein shall be paid by the other party, which obligation on the part of the other party shall be deemed to have accrued on the date of the commencement of such action and shall be enforceable whether or not the action is prosecuted to judgment.

29.22 **Governing Law; WAIVER OF TRIAL BY JURY**. This Lease shall be construed and enforced in accordance with the laws of the State of California. IN ANY ACTION OR PROCEEDING ARISING HEREFROM, LANDLORD AND TENANT HEREBY CONSENT TO (I) THE JURISDICTION OF ANY COMPETENT COURT

WITHIN THE STATE OF CALIFORNIA, (II) SERVICE OF PROCESS BY ANY MEANS AUTHORIZED BY CALIFORNIA LAW, AND (III) IN THE INTEREST OF SAVING TIME AND EXPENSE, TRIAL WITHOUT A JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM BROUGHT BY EITHER OF THE PARTIES HERETO AGAINST THE OTHER OR THEIR SUCCESSORS IN RESPECT OF ANY MATTER ARISING OUT OF OR IN CONNECTION WITH THIS LEASE, THE RELATIONSHIP OF LANDLORD AND TENANT, TENANT'S USE OR OCCUPANCY OF THE PREMISES, AND/OR ANY CLAIM FOR INJURY OR DAMAGE, OR ANY EMERGENCY OR STATUTORY REMEDY. IN THE EVENT LANDLORD COMMENCES ANY SUMMARY PROCEEDINGS OR ACTION FOR NONPAYMENT OF BASE RENT OR ADDITIONAL RENT, TENANT SHALL NOT INTERPOSE ANY COUNTERCLAIM OF ANY NATURE OR DESCRIPTION (UNLESS SUCH COUNTERCLAIM SHALL BE MANDATORY) IN ANY SUCH PROCEEDING OR ACTION, BUT SHALL BE RELEGATED TO AN INDEPENDENT ACTION AT LAW.

29.23 **Submission of Lease**. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of, option for or option to lease, and it is not effective as a lease or otherwise until execution and delivery by both Landlord and Tenant.

29.24 **Brokers**. Landlord and Tenant hereby warrant to each other that they have had no dealings with any real estate broker or agent in connection with the negotiation of this Lease, excepting only the real estate brokers or agents specified in Section 12 of the Summary (the "**Brokers**"), and that they know of no other real estate broker or agent who is entitled to a commission in connection with this Lease. Each party agrees to indemnify and defend the other party against and hold the other party harmless from any and all claims, demands, losses, liabilities, lawsuits, judgments, costs and expenses (including without limitation reasonable attorneys' fees) with respect to any leasing commission or equivalent compensation alleged to be owing on account of any dealings with any real estate broker or agent, other than the Brokers, occurring by, through, or under the indemnifying party. The terms of this Section 29.24 shall survive the expiration or earlier termination of the Lease Term. Landlord will pay the Brokers any commission due as a result of this Lease pursuant to a separate agreement.

29.25 **Independent Covenants**. This Lease shall be construed as though the covenants herein between Landlord and Tenant are independent and not dependent and Tenant hereby expressly waives the benefit of any statute to the contrary and agrees that if Landlord fails to perform its obligations set forth herein, Tenant shall not be entitled to make any repairs or perform any acts hereunder at Landlord's expense or to any setoff of the Rent or other amounts owing hereunder against Landlord.

29.26 **Project or Building Name, Address and Signage**. Subject to Tenant's rights set forth in Section 23.1, above, Landlord shall have the right at any time to change the name and/or address of the Project or Building and to install, affix and maintain any and all signs on the exterior and on the interior of the Project or Building as Landlord may, in Landlord's sole discretion, desire. Tenant shall not use the name of the Project or Building or use pictures or illustrations of the Project or Building in advertising or other publicity or for any purpose other than as the address of the business to be conducted by Tenant in the Premises, without the prior written consent of Landlord.

29.27 **Counterparts**. This Lease may be executed in counterparts with the same effect as if both parties hereto had executed the same document. Both counterparts shall be construed together and shall constitute a single lease.

29.28 **Confidentiality**. Tenant acknowledges that the content of this Lease and any related documents are confidential information. Tenant shall keep such confidential information strictly confidential and shall not disclose such confidential information to any person or entity other than Tenant's financial, legal, and space planning consultants , potential transferees, purchasers, investors, brokers and as required by applicable law.

29.29 **Development of the Project**.

29.29.1 **Subdivision**. Landlord reserves the right to subdivide all or a portion of the buildings and Common Areas. Tenant agrees to execute and deliver, upon demand by Landlord and in the form requested by Landlord, any additional documents needed to conform this Lease to the circumstances resulting from a subdivision and any all

maps in connection therewith. Notwithstanding anything to the contrary set forth in this Lease, the separate ownership of any buildings and/or Common Areas by an entity other than Landlord shall not affect the calculation of Direct Expenses or Tenant's payment of Tenant's Share of Direct Expenses.

29.29.2 **Construction of Property and Other Improvements**. Tenant acknowledges that portions of the Project may be under construction following Tenant's occupancy of the Premises, and that such construction may result in levels of noise, dust, obstruction of access, etc. which are in excess of that present in a fully constructed project. Tenant hereby waives any and all rent offsets or claims of constructive eviction which may arise in connection with such construction.

29.30 **No Violation**. Tenant hereby warrants and represents that neither its execution of nor performance under this Lease shall cause Tenant to be in violation of any agreement, instrument, contract, law, rule or regulation by which Tenant is bound, and Tenant shall protect, defend, indemnify and hold Landlord harmless against any claims, demands, losses, damages, liabilities, costs and expenses, including, without limitation, reasonable attorneys' fees and costs, arising from Tenant's breach of this warranty and representation.

29.31 **Transportation Management**. Tenant shall fully comply with all present or future programs intended to manage parking, transportation or traffic in and around the Project and/or the Building, and in connection therewith, Tenant shall take responsible action for the transportation planning and management of all employees located at the Premises by working directly with Landlord, any governmental transportation management organization or any other transportation-related committees or entities. Such programs may include, without limitation: (i) restrictions on the number of peak-hour vehicle trips generated by Tenant; (ii) increased vehicle occupancy; (iii) implementation of an in-house ridesharing program and an employee transportation coordinator; (iv) working with employees and any Project, Building or area-wide ridesharing program manager; (v) instituting employer-sponsored incentives (financial or in-kind) to encourage employees to rideshare; and (vi) utilizing flexible work shifts for employees.

(signature page to follow)

IN WITNESS WHEREOF, Landlord and Tenant have caused this Lease to be executed the day and date first above written.

LANDLORD:

HCP LIFE SCIENCE ESTATES, INC.,
a Delaware corporation

By: /s/ Michael Dorris

Its: Vice President

TENANT:

SORRENTO THERAPEUTICS, INC.,
a Delaware corporation

By: /s/ Henry Ji, Ph.D.

Henry Ji, Ph.D.
Print Name

Its: President & CEO

By: /s/ Jiong Shao

Jiong Shao
Print Name

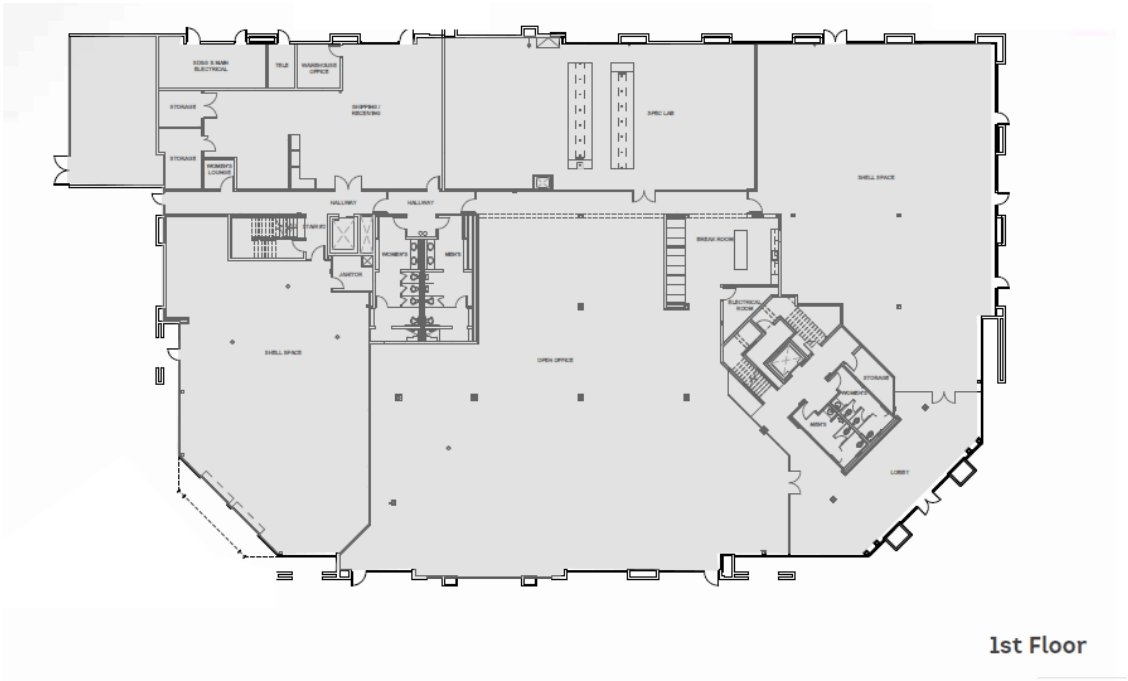
Its: CFO

EXHIBIT A

SORRENTO GATEWAY

OUTLINE OF PREMISES

FIRST FLOOR (EXISTING FLOORPLAN SHOWN)



SECOND FLOOR (EXISTING FLOORPLAN SHOWN)

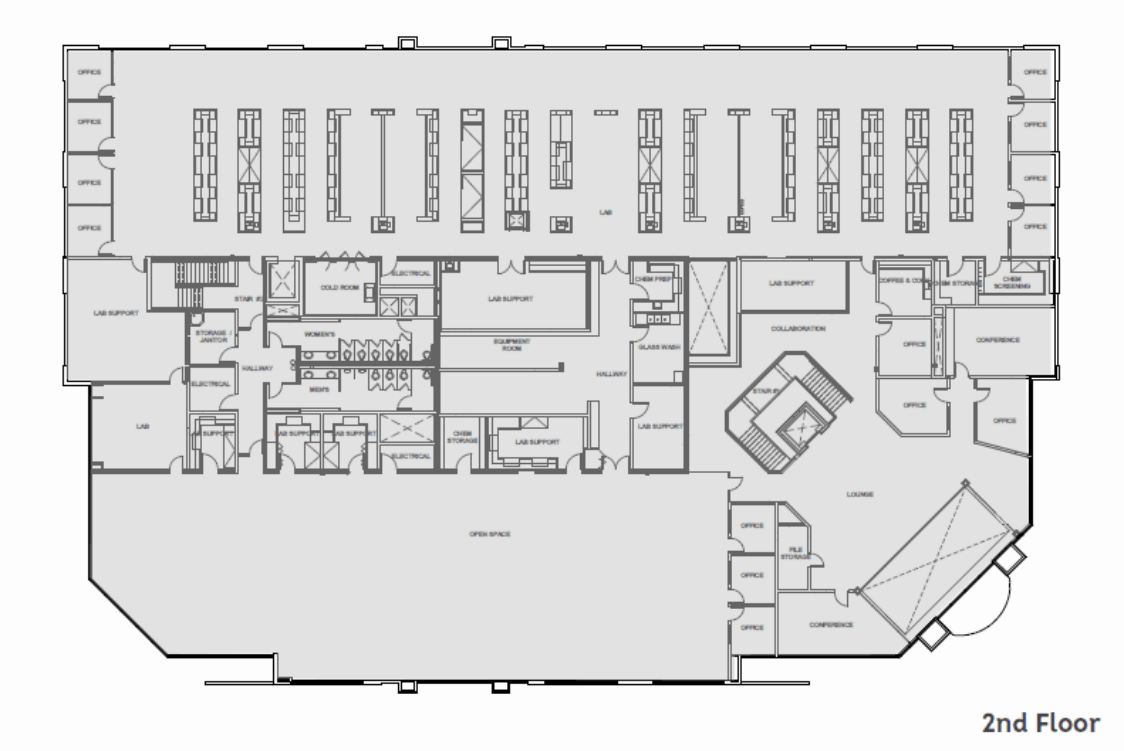


EXHIBIT A-1

SORRENTO GATEWAY

PROJECT SITE PLAN

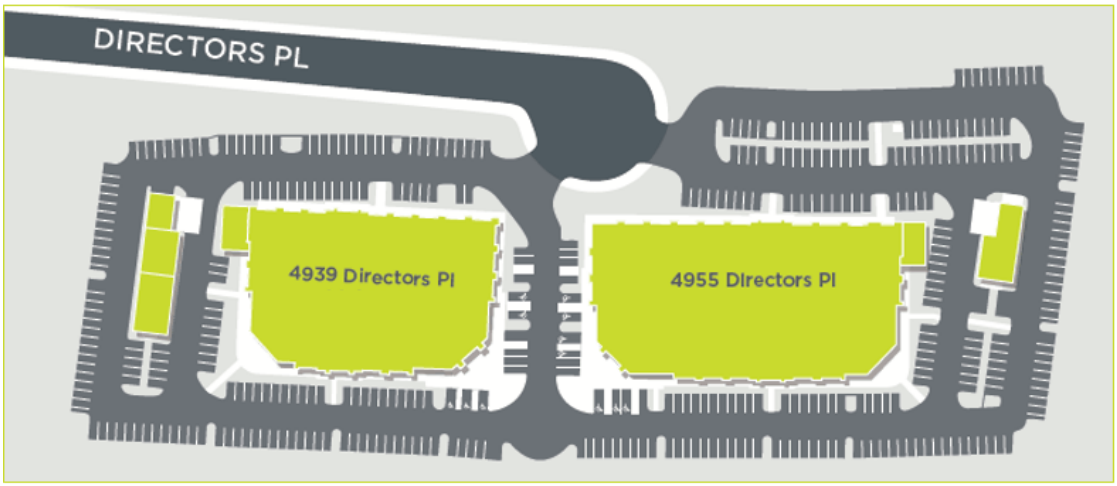


EXHIBIT A-2

LOCATION OF LANDLORD SPEC BUILDING

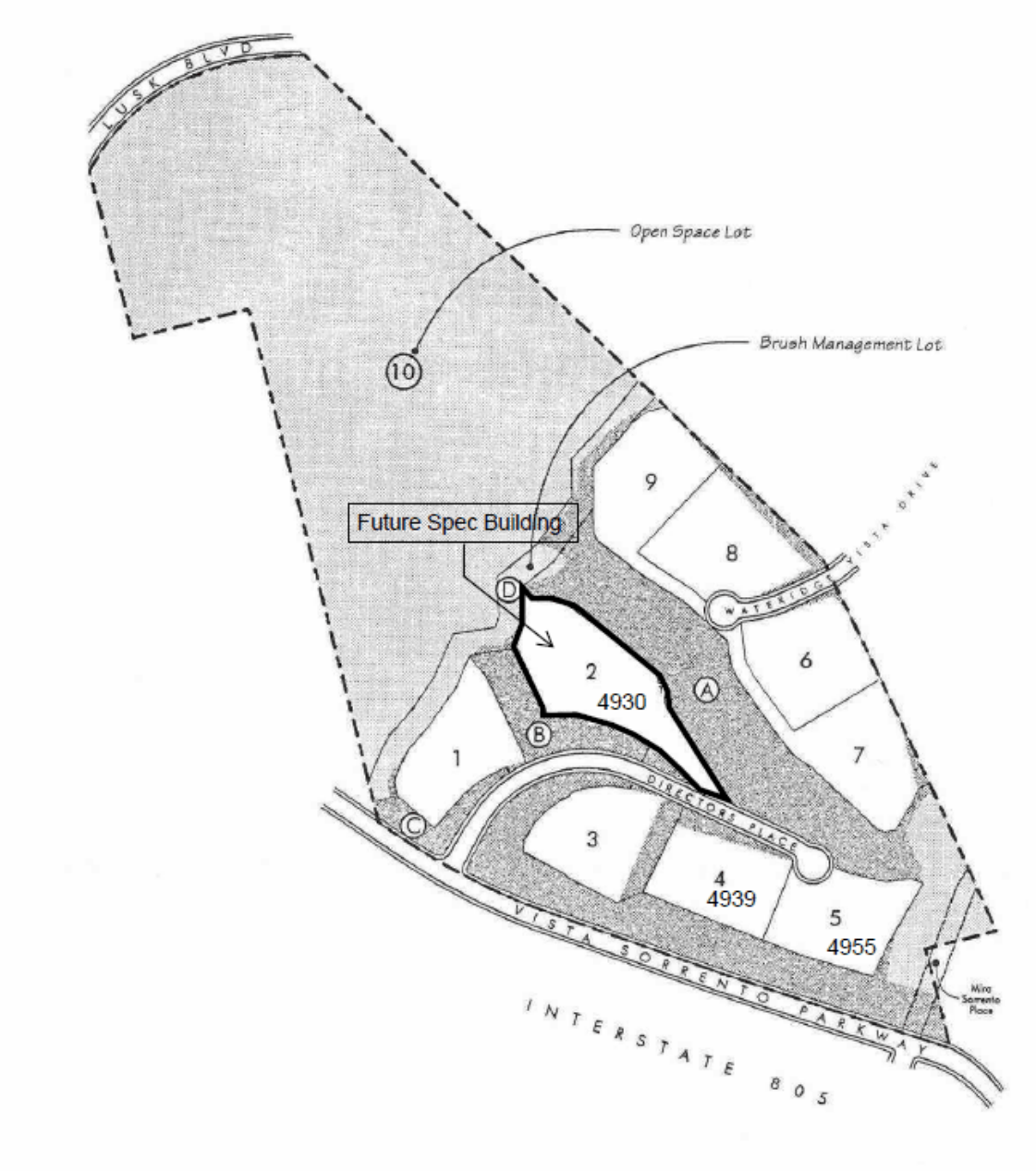


EXHIBIT B

SORRENTO GATEWAY

TENANT WORK LETTER

This Tenant Work Letter shall set forth the terms and conditions relating to the construction of the tenant improvements in the Premises. This Tenant Work Letter is essentially organized chronologically and addresses the issues of the construction of the Premises, in sequence, as such issues will arise during the actual construction of the Premises. All references in this Tenant Work Letter to Articles or Sections of "this Lease" shall mean the relevant portion of Articles 1 through 29 of the Lease to which this Tenant Work Letter is attached as Exhibit B and of which this Tenant Work Letter forms a part, and all references in this Tenant Work Letter to Sections of "this Tenant Work Letter" shall mean the relevant portion of Sections 1 through 6 of this Tenant Work Letter.

SECTION 1

DELIVERY OF THE PREMISES

Landlord has constructed, at its sole cost and expense, the base, shell, and core (i) of the Premises and (ii) of the floor of the Building on which the Premises is located (collectively, the "**Base, Shell, and Core**"). The Base, Shell and Core shall consist of those portions of the Premises which were in existence prior to the construction of any tenant improvements in the Premises. Notwithstanding anything set forth in this Tenant Work Letter to the contrary, Tenant shall accept the Base, Shell and Core from Landlord in their presently existing, "as-is" condition, subject to the warranty provided in Section 1.1.4 of the Lease; provided, however, notwithstanding the foregoing, to the extent required in order to allow Tenant to obtain a certificate of occupancy, or its legal equivalent, for the Premises for the Permitted Use set forth in Section 7 of the Summary, Landlord shall, at Landlord's sole cost and expense (without application of the "Tenant Improvement Allowance," as that term is defined in Section 2.1, below) cause the Base Building to comply with applicable building codes and other governmental laws, ordinances and regulations which were enacted and enforced as of the date of this Lease (Landlord's compliance obligations set forth in this sentence and the immediately foregoing sentence, collectively, are the "**Landlord Initial Compliance Obligations**").

SECTION 2

TENANT IMPROVEMENT ALLOWANCE; ADDITIONAL TENANT IMPROVEMENT ALLOWANCE

2.1 **Tenant Improvement Allowance; Additional Tenant Improvement Allowance**.

2.1.1 **Tenant Improvement Allowance**. Tenant shall be entitled to a one-time tenant improvement allowance (the "**Tenant Improvement Allowance**") in the amount set forth in Section 5 of the Summary for the costs relating to the initial design and construction of Tenant's improvements, which are permanently affixed to the Premises (the "**Tenant Improvements**"), except as otherwise provided herein. In no event shall Landlord be obligated to make disbursements pursuant to this Tenant Work Letter in a total amount which exceeds the Tenant Improvement Allowance. In the event that the Tenant Improvement Allowance is not fully utilized by Tenant on or before the date that occurs eighteen (18) months following the Lease Commencement Date, then, subject to the remaining terms of this Section 2.1.1, such unused amounts shall revert to Landlord, and Tenant shall have no further rights with respect thereto. All Tenant Improvements for which the Tenant Improvement Allowance has been made available shall be deemed Landlord's property under the terms of the Lease and Tenant shall not be required to remove the Tenant Improvements upon the expiration of earlier termination of the Lease Term. In the event that the Tenant Improvement Allowance is not fully utilized by Tenant following the Substantial Completion of the Tenant Improvements (such unused amount to be known as the "**Unused TIA**"), then Tenant may, by written notice to Landlord or before the Lease Commencement Date, elect to receive a credit against Base Rent otherwise due and owing under this Lease commencing on the first (1st) day of Lease Month 13 (provided that Landlord may, upon thirty (30) days' prior notice to Tenant and at Landlord's sole option, elect to accelerate the credit against Base Rent and apply the same to an earlier Lease Month(s)

as designated by Landlord in such notice), in an amount equal to fifty percent (50%) of the Unused TIA, not to exceed a total of two (2) months of Base Rent (calculated at the Base Rent for Month 13).

2.1.2 **Additional Tenant Improvement Allowance**. Subject to the terms and conditions set forth in this Section 2.1.2, and Sections 2.1.3 and 2.1.4, below, as applicable, Tenant shall be entitled to increase the Tenant Improvement Allowance (collectively, the "**Additional Tenant Improvement Allowance**") by $25.00 per rentable square foot of the Premises (*i.e.*, $1,530,175.00 based upon 61,207 rentable square feet in the Premises), resulting in a total amount of the Tenant Improvement Allowance plus the Additional Tenant Improvement Allowance not to exceed Seven Million Six Hundred Fifty Thousand Eight Hundred Seventy-Five and 00/100 Dollars ($7,650,875.00), pursuant to a notice delivered to Landlord on or before the Lease Commencement Date. In the event that the Additional Tenant Improvement Allowance is not fully disbursed by Landlord on behalf of Tenant on or before the date that occurs eighteen (18) months following the Lease Commencement Date, then Tenant shall have no further rights with respect thereto. In the event Tenant exercises its right to use all or any portion of the Additional Tenant Improvement Allowance, the monthly Base Rent for the Premises shall be increased as follows.

2.1.2.1 **Additional Monthly Base Rent**. If Tenant exercises its right to use any portion of the Additional Tenant Improvement Allowance, the monthly Base Rent for the Premises shall be increased by an amount equal to the "Additional Monthly Base Rent," as that term is defined below, in order to repay such Additional Tenant Improvement Allowance to Landlord. The "**Additional Monthly Base Rent**" shall be determined as the missing component of an annuity, which annuity shall have (w) the amount of the Additional Tenant Improvement Allowance which Tenant actually utilizes as the present value amount, (x) the number of monthly rental payments that Tenant shall be required to make during the then-remaining term of Tenant's lease of the Premises as the number of payments, (y) seventy-five hundredths (.75), which is equal to nine percent (9%) divided by twelve (12) months per year, as the monthly interest factor and (z) the Additional Monthly Base Rent as the missing component of the annuity. Landlord and Tenant acknowledge that the Additional Tenant Improvement Allowance may be requested by Tenant, and paid to Tenant, in multiple disbursements, and the parties shall follow the distribution process set forth in Section 2.1.3 and/or Section 2.1.4, below, as applicable, for each such disbursement.

2.1.3 **Distribution of Additional Tenant Improvement Allowance Prior to Substantial Completion of the Premises**. If Tenant elects to utilize all or a portion of the Additional Tenant Improvement Allowance prior to the substantial completion of the Tenant Improvements, then (i) all references in this Tenant Work Letter to the "Tenant Improvement Allowance", shall be deemed to include the Additional Tenant Improvement Allowance which Tenant actually utilizes, (ii) the parties shall promptly execute an amendment (the "**Pre-SC Amendment**") to this Lease setting forth the new amount of the Base Rent and Tenant Improvement Allowance computed in accordance with Section 2.1.2 and this Section 2.1.3, (iii) Tenant shall deliver to Landlord, concurrently with Tenant's execution and delivery of the Pre-SC Amendment to Landlord, a new L-C or an amendment to the existing L-C, in the form attached to this Lease as **Exhibit G** and subject to the terms and conditions of Article 21 of the Lease, in an amount equal to (or increasing the then existing L-C Amount by) fifty percent (50%) of the lesser of (A) the Additional Tenant Improvement Allowance, and (B) the total cost of Tenant Improvement Allowance Items incurred in connection with constructing Tenant Improvement for other than office space and research and development laboratories (as applicable, the "**Additional LOC Amount**," which Additional LOC Amount shall be subject to reduction under the terms of Article 21 the Lease), and (iv) the additional amount of monthly Base Rent owing in accordance with Section 2.1.2, above, for the first full month of the Lease Term shall be paid by Tenant to Landlord at the time of Tenant's execution of the Pre-SC Amendment.

2.1.4 **Distribution of Additional Tenant Improvement Allowance Following Substantial Completion of the Premises**. If Tenant elects to utilize all or a portion of the Additional Tenant Improvement Allowance following the substantial completion of the Tenant Improvements, then (i) all improvements to be constructed with such Additional Tenant Improvement Allowance (the "**Additional Improvements**") shall be constructed pursuant to the terms of Article 8 of the Lease, provided that (A) the Additional Tenant Improvement Allowance shall be distributed pursuant to Landlord's standard disbursement procedures, and (B) Landlord shall receive the PMA Fee with respect to such Additional Improvements, (ii) the parties shall promptly execute an amendment (the "**Post-SC Amendment**") to this Lease setting forth the new amount of the Base Rent and Additional Tenant Improvement Allowance, and (iii) Tenant shall deliver to Landlord, concurrently with Tenant's execution and delivery of the Post-SC Amendment, a L-

C or an amendment to the existing L-C, in the form attached to the Lease as **Exhibit G** and subject to the terms and conditions of Article 21 of the Lease, in the Additional LOC Amount (which Additional LOC Amount shall be subject to reduction under the terms of Article 21 of the Lease), and (iv) the additional amount of monthly Base Rent owing in accordance with Section 2.1.2, above, for the first month following the anticipated date of disbursement shall be paid by Tenant to Landlord at the time of Tenant's execution of the Post-SC Amendment.

2.2 **Disbursement of the Tenant Improvement Allowance**.

2.2.1 Except as otherwise set forth in this Tenant Work Letter, the Tenant Improvement Allowance shall be disbursed by Landlord (each of which disbursements shall be made pursuant to Landlord's disbursement process) only for the following items and costs (collectively, the "**Tenant Improvement Allowance Items**"):

2.2.1.1 Payment of the fees of the "Architect" and the "Engineers," as those terms are defined in Section 3.1 of this Tenant Work Letter, which fees shall, notwithstanding anything to the contrary contained in this Tenant Work Letter, not exceed an aggregate amount equal to $8.00 per rentable square foot of the Premises, and payment of the third-party out-of-pocket fees incurred by, and the cost of documents and materials supplied by, Landlord and Landlord's consultants in connection with the preparation and review of the "Construction Drawings," as that term is defined in Section 3.1 of this Tenant Work Letter;

2.2.1.2 The payment of plan check, permit and license fees relating to construction of the Tenant Improvements;

2.2.1.3 The cost of construction of the Tenant Improvements, including, without limitation, testing and inspection costs, hoisting and trash removal costs, and contractors' fees and general conditions;

2.2.1.4 The cost of any changes in the Base, Shell and Core when such changes are required by the Construction Drawings (including if such changes are due to the fact that such work is prepared on an unoccupied basis), such cost to include all direct architectural and/or engineering fees and expenses incurred in connection therewith;

2.2.1.5 The cost of any changes to the Construction Drawings or Tenant Improvements required by all applicable building codes (the "**Code**");

2.2.1.6 The cost of Tenant's Signage;

2.2.1.7 The cost of the "PMA Fee," as that term is defined in Section 4.3.2 of this Tenant Work Letter;

2.2.1.8 The cost of Tenant's project manager;

2.2.1.9 Sales and use taxes and Title 24 fees; and

2.2.1.10 The cost of installing Tenant's telephone and data cabling in the Premises, not exceed an aggregate amount equal to $5.00 per rentable square foot of the Premises;

2.2.1.11 All other costs to be expended by Landlord in connection with the construction of the Tenant Improvements, provided such costs have been reasonably approved by Tenant in advance.

Tenant will not be charged for freight elevator use, utilities, parking, staging area (if any) use or similar fees in connection with the construction of the Tenant Improvements.

SECTION 3

CONSTRUCTION DRAWINGS

3.1 **Selection of Architect/Construction Drawings**. Tenant shall retain the architect/space planner selected by Tenant and reasaonbly approved by Landlord (the "**Architect**") to prepare the "Construction Drawings," as that term is defined in this Section 3.1. Tenant shall retain (or cause the Architect to retain) engineering consultants (the "**Engineers**") mutually and reasonable approved by Landlord and Tenant to prepare all plans and engineering working drawings; provided, however, the following engineering consultants are hereby approved by Landlord and Tenant: Creo Engineering for HVAC design; MPE Consulting for electrical design; and Prime Structural Engineers for structural engineering. Plumbing and life safety will be performed on a "Design/Building" basis. The plans and drawings to be prepared by Architect and the Engineers hereunder shall be known collectively as the "**Construction Drawings**." All Construction Drawings shall comply with the drawing format and specifications as determined by Landlord, and shall be subject to Landlord's and Tenant's approval. Tenant shall be responsible for ensuring that all elements of the design of the Construction Drawings are suitable for Tenant's use of the Premises. Tenant and Architect shall verify, in the field, the dimensions and conditions as shown on the relevant portions of the base Building plans, and Tenant and Architect shall be solely responsible for the same, and Landlord shall have no responsibility in connection therewith. Landlord's review of the Construction Drawings as set forth in this Section 3, shall be for its sole purpose and shall not imply Landlord's review of the same, or obligate Landlord to review the same, for quality, design, Code compliance or other like matters. Accordingly, notwithstanding that any Construction Drawings are reviewed by Landlord or its space planner, architect, engineers and consultants, and notwithstanding any advice or assistance which may be rendered to Tenant by Landlord or Landlord's space planner, architect, engineers, and consultants, Landlord shall have no liability whatsoever in connection therewith and shall not be responsible for any omissions or errors contained in the Construction Drawings, and Tenant's waiver and indemnity set forth in this Lease shall specifically apply to the Construction Drawings.

3.2 **Space Plan**. On or before the date set forth in Schedule 1, attached hereto, Tenant and the Architect shall prepare the final space plan for Tenant Improvements in the Premises (collectively, the "**Final Space Plan**"), which Final Space Plan shall include a layout and designation of all offices, rooms and other partitioning, their intended use, and equipment to be contained therein, and shall deliver four (4) copies signed by Tenant of the Final Space Plan to Landlord for Landlord's approval. After receiving such notice of disapproval, Tenant shall cause the Architect to revise the Space Plan, taking into account the reasons for Tenant's disapproval, and resubmit the Space Plan to Landlord for its approval. Such procedure shall be repeated as necessary until Landlord has approved the Space Plan.

3.3 **Approved Working Drawings**. On or before the date set forth in Schedule 1, Tenant, the Architect and the Engineers shall complete the architectural and engineering drawings for the Premises, and the final architectural working drawings in a form which is complete to allow subcontractors to bid on the work and to obtain all applicable permits (collectively, the "**Final Working Drawings**") and shall submit two (2) copies signed by Tenant of the same to Landlord for Landlord's approval. After receiving such notice of disapproval, Tenant shall cause the Architect and/or the Engineers to revise the Final Working Drawings, taking into account the reasons for Landlord's disapproval, and resubmit the Final Working Drawings to Landlord for its approval. Such procedure shall be repeated as necessary until Landlord has approved the Final Working Drawings.

3.6 **Permits**. The Final Working Drawings shall be approved by Landlord (the "**Approved Working Drawings**") prior to the commencement of the construction of the Tenant Improvements. Tenant shall immediately submit the Approved Working Drawings to the appropriate municipal authorities for all applicable building permits necessary to allow "Contractor," as that term is defined in Section 4.1, below, to commence and fully complete the construction of the Tenant Improvements (the "**Permits**") and, in connection therewith, Tenant shall coordinate with Landlord in order to allow Landlord, at its option, to take part in all phases of the permitting process and shall supply Landlord, as soon as possible, with all plan check numbers and dates of submittal and obtain the Permits on or before the date set forth in Schedule 1. . Notwithstanding anything to the contrary set forth in this Section 3.4, Tenant hereby agrees that neither Landlord nor Landlord's consultants shall be responsible for obtaining any building permit or certificate of occupancy for the Premises and that the obtaining of the same shall be Tenant's responsibility; provided however that Landlord shall, in any event, cooperate with Tenant in executing permit applications and performing other ministerial acts reasonably necessary to enable Tenant to obtain any such permit or certificate of occupancy. No changes, modifications or alterations in the Approved Working Drawings may be made without the prior written consent of Landlord, provided that Landlord may withhold its consent, in its sole discretion, to any change in the Approved Working

Drawings if such change would directly or indirectly delay the "Substantial Completion" of the Premises as that term is defined in Section 5.1 of this Tenant Work Letter.

3.7 **Time Deadlines**. Tenant shall use its best, good faith, efforts and all due diligence to cooperate with the Architect, the Engineers, and Landlord to complete all phases of the Construction Drawings and the permitting process and to receive the permits, and with Contractor for approval of the "Cost Proposal," as that term is defined in Section 4.2 of this Tenant Work Letter, as soon as possible after the execution of the Lease, and, in that regard, shall meet with Landlord on a scheduled basis to be determined by Landlord, to discuss Tenant's progress in connection with the same. The applicable dates for approval of items, plans and drawings as described in this Section 3, Section 4, below, and in this Tenant Work Letter are set forth and further elaborated upon in Schedule 1 (the "**Time Deadlines**"), attached hereto. Tenant agrees to comply with the Time Deadlines.

SECTION 4

CONSTRUCTION OF THE TENANT IMPROVEMENTS

4.1 **Contractor**. Tenant shall select a contractor ("**Contractor**") to construct the Tenant Improvements pursuant to the terms of this Section 4.1. Promptly following the full execution and delivery of the Lease, Landlord shall deliver a construction proposal bid package (the "**RFP**") to Prevost Construction, Pacific Building Group and Good and Roberts (each a "**Bidding Contractor**," and, collectively, the "**Bidding Contractors**") requesting each Bidding Contractor to bid on the construction of the Tenant Improvements. Each of the Bidding Contractors shall be notified in the RFP, which shall be prepared by Landlord, of (i) the time schedule for construction of the Tenant Improvements, (ii) the requirement that, unless Landlord otherwise requires, the selected Bidding Contractor shall use the Engineers set forth in Section 3.1, above, and (iii) all major subcontractors must be bid to at least two (2) qualified subcontractors. Tenant shall, within three (3) business days following the date upon which Landlord delivers such bids to Tenant, select the Contractor from among the Bidding Contractors that Landlord determines have (a) submitted qualified bids which were consistent with the bid assumptions and directions, and (b) have committed to Landlord's time schedule for construction of the Tenant Improvements.

4.2 **Cost Proposal**. After the Approved Working Drawings are signed by Landlord and Tenant, Landlord shall provide Tenant with a cost proposal in accordance with the Approved Working Drawings, which cost proposal shall include, as nearly as possible, the cost of all Tenant Improvement Allowance Items to be incurred by Tenant in connection with the design and construction of the Tenant Improvements (the "**Cost Proposal**"), and which shall also include the bid amount submitted by each qualified major subcontractor; provided, however, the Contractor shall be required to bid each of the major subcontractors (as reasonably determined by Landlord) with at least two (2) qualified subcontractors, and Landlord shall, unless otherwise directed by Tenant at the time Tenant approves the Cost Proposal, select the lowest cost bid which is conforming and consistent with the bid assumptions and directions. Tenant shall approve and deliver the Cost Proposal to Landlord within five (5) business days of the receipt of the same, and upon receipt of the same by Landlord, Landlord shall be released by Tenant to purchase the items set forth in the Cost Proposal and to commence the construction relating to such items. The date by which Tenant must approve and deliver the Cost Proposal to Landlord shall be known hereafter as the "Cost Proposal Delivery Date".

4.3 **Construction of Tenant Improvements by Contractor under the Supervision of Landlord**.

4.3.1 **Over-Allowance Amount**. On the Cost Proposal Delivery Date, Tenant shall deliver to Landlord cash in an amount (the "**Over-Allowance Amount**") equal to the difference between (i) the amount of the Cost Proposal and (ii) the amount of the Tenant Improvement Allowance (as increased by any Additional Tenant Improvement Allowance which Tenant elects to utilize). The Over-Allowance Amount shall be disbursed by Landlord prior to the disbursement of any then remaining portion of the Tenant Improvement Allowance, and such disbursement shall be pursuant to the same procedure as the Tenant Improvement Allowance. In the event that, after the Cost Proposal Delivery Date, any revisions, changes, or substitutions shall be made to the Construction Drawings or the Tenant Improvements, any additional costs which arise in connection with such revisions, changes or substitutions or any other additional costs shall be paid by Tenant to Landlord immediately upon Landlord's request as an addition to the Over-Allowance Amount.

4.3.2 **Landlord's Retention of Contractor**. Landlord shall independently retain Contractor, on behalf of Tenant, to construct the Tenant Improvements in accordance with the Approved Working Drawings (subject to the following sentence) and the Cost Proposal and Landlord shall supervise the construction by Contractor, and Tenant shall not be required pay a construction supervision and management fee to Landlord; provided, however, Tenant shall pay Landlord for the construction supervision and management fee (the "**PMA Fee**") in an amount equal to the actual out-of-pocket management fee that Landlord pays to its project manager, Project Management Advisors ("**PMA**"); provided further that the PMA Fee shall not exceed an amount equal to two and 65/100 percent (2.65%) of the total cost of all Tenant Improvement Allowance Items. Notwithstanding anything set forth in this Tenant Work Letter to the contrary, construction of the Tenant Improvements shall not commence until (a) Landlord has a fully executed and delivered contract with Contractor for the construction of the Tenant Improvements, and (b) Tenant has delivered to Landlord the Over-Allowance Amount.

4.3.3 **Contractor's Warranties and Guaranties**. Landlord hereby agrees to obtain industry standard warranties from the Contractor and all subcontractors and assigns to Tenant all warranties and guaranties by Contractor relating to the Tenant Improvements, and Tenant hereby waives all claims against Landlord relating to, or arising out of the construction of, the Tenant Improvements. Landlord will assist Tenant in enforcing all warranties against the applicable parties.

4.3.4 **Intentionally Omitted**.

SECTION 5

COMPLETION OF THE TENANT IMPROVEMENTS; LEASE COMMENCEMENT DATE

5.1 **Ready for Occupancy**. The Premises shall be deemed "**Ready for Occupancy**" upon the Substantial Completion of the Premises. For purposes of this Lease, "**Substantial Completion**" of the Premises shall occur upon the completion of construction of the Tenant Improvements in the Premises pursuant to the Approved Working Drawings, with the exception of any punch list items and any tenant fixtures, work-stations, built-in furniture, or equipment to be installed by Tenant or under the supervision of Contractor, and receipt of a certificate of occupancy or its equivalent (e.g., a final sign off by the Building Inspector allowing legal occupancy of the Premises).

5.2 **Delay of the Substantial Completion of the Premises**. Except as provided in this Section 5.2, the Lease Commencement Date shall occur as set forth in the Lease and Section 5.1, above. If there shall be a delay or there are delays in the Substantial Completion of the Premises or in the occurrence of any of the other conditions precedent to the Lease Commencement Date, as set forth in the Lease, as a result of:

5.2.1 Tenant's failure to comply with the Time Deadlines;

5.2.2 Tenant's failure to timely approve any matter requiring Tenant's approval;

5.2.3 A breach by Tenant of the terms of this Tenant Work Letter or the Lease;

5.2.4 Changes in any of the Construction Drawings after disapproval of the same by Landlord or because the same do not comply with Code or other applicable laws;

5.2.5 Tenant's request for changes in the Approved Working Drawings;

5.2.6 Tenant's requirement for materials, components, finishes or improvements which are not available in a commercially reasonable time given the anticipated date of Substantial Completion of the Premises, as set forth in the Lease, or which are different from, or not included in, the Standard Improvement Package;

5.2.7 Changes to the Base, Shell and Core required by the Approved Working Drawings; or

5.2.8 Any other acts or omissions of Tenant, or its agents, or employees;

then, notwithstanding anything to the contrary set forth in the Lease or this Tenant Work Letter and regardless of the actual date of the Substantial Completion of the Premises, the date of the Substantial Completion of the Premises shall be deemed to be the date the Substantial Completion of the Premises would have occurred if no Tenant delay or delays, as set forth above, had occurred. Notwithstanding the foregoing, no Tenant Delay pursuant to Section 5.2.2 (except as to items for which the time period for Tenant's approval is expressly set forth herein), 5.2.3 or 5.2.8 above shall be deemed to have occurred unless and until Landlord has provided written notice to Tenant specifying the action or inaction that Landlord contends constitutes a Tenant Delay. If such action or inaction is not cured within one (1) day after receipt of such notice, then a Tenant Delay, as set forth in such notice, shall be deemed to have occurred commencing as of the date such notice is received and continuing for the number of days that Substantial Completion of the Improvements was in fact delayed as a result of such action or inaction.

SECTION 6

MISCELLANEOUS

6.1 **Tenant's Entry Into the Premises Prior to Substantial Completion**. Provided that Tenant and its agents do not interfere with Contractor's work in the Building and the Premises, Contractor shall allow Tenant access to the Premises prior to the Substantial Completion of the Premises (without the payment of Rent) for the purpose of Tenant installing overstandard equipment or fixtures (including Tenant's data and telephone equipment) in the Premises. Prior to Tenant's entry into the Premises as permitted by the terms of this Section 6.1, Tenant shall submit a schedule to Landlord and Contractor, for their approval, which schedule shall detail the timing and purpose of Tenant's entry. Tenant shall hold Landlord harmless from and indemnify, protect and defend Landlord against any loss or damage to the Building or Premises and against injury to any persons caused by Tenant's actions pursuant to this Section 6.1.

6.2 **Intentionally Omitted**.

6.3 **Tenant's Representative**. Tenant has designated Kirt Gilliland of Gilliland Construction Management as its sole representative with respect to the matters set forth in this Tenant Work Letter, who, until further notice to Landlord, shall have full authority and responsibility to act on behalf of the Tenant as required in this Tenant Work Letter.

6.4 **Landlord's Representative**. Landlord has designated Jeff Sobczyk of PMA as its sole representative with respect to the matters set forth in this Tenant Work Letter, who, until further notice to Tenant, shall have full authority and responsibility to act on behalf of the Landlord as required in this Tenant Work Letter.

6.5 **Tenant's Agents**. All contractors, subcontractors, laborers, materialmen, and suppliers retained directly by Tenant shall be from a list of supplied by Landlord.

6.6 **Time of the Essence in This Tenant Work Letter**. Unless otherwise indicated, all references herein to a "number of days" shall mean and refer to calendar days. Time is of the essence with respect to the performance of every provision of this Tenant Work Letter in which time of performance is a factor.

6.7 **Tenant's Lease Default**. Notwithstanding any provision to the contrary contained in this Lease, if an event of default as described in the Lease, or a default by Tenant under this Tenant Work Letter, has occurred at any time on or before the Substantial Completion of the Premises, then (i) in addition to all other rights and remedies granted to Landlord pursuant to the Lease, Landlord shall have the right to withhold payment of all or any portion of the Tenant Improvement Allowance and/or Landlord may cause Contractor to cease the construction of the Premises (in which case, Tenant shall be responsible for any delay in the Substantial Completion of the Premises caused by such work stoppage as set forth in Section 5 of this Tenant Work Letter), and (ii) all other obligations of Landlord under the terms of this Tenant Work Letter shall be forgiven until such time as such default is cured pursuant to the terms of the Lease.

SCHEDULE 1 TO EXHIBIT B
TIME DEADLINES

	Dates	Actions to be Performed
A.	N/A	Final Space Plan to be completed by Tenant and delivered to Landlord.
B.	N/A	Tenant to deliver Final Working Drawings to Landlord.
C.	N/A	Tenant to deliver Permits to Contractor.
D.	N/A	Tenant to approve Cost Proposal and deliver Cost Proposal to Landlord.

EXHIBIT C

SORRENTO GATEWAY

NOTICE OF LEASE TERM DATES

To: _____
_____
_____
_____

Re: Lease dated _____, 20__ between _____, a _____ ("**Landlord**"), and _____, a _____ ("**Tenant**") concerning Suite _____ on floor(s) _____ of the building located at _____, California.

Gentlemen:

In accordance with the Lease (the "**Lease**"), we wish to advise you and/or confirm as follows:

1. The Lease Term shall commence on or has commenced on _____ for a term of _____ ending on _____.

2. Rent commenced to accrue on _____, in the amount of _____.

3. If the Lease Commencement Date is other than the first day of the month, the first billing will contain a pro rata adjustment. Each billing thereafter, with the exception of the final billing, shall be for the full amount of the monthly installment as provided for in the Lease.

4. Your rent checks should be made payable to _____ at _____.

5. The exact number of rentable/usable square feet within the Premises is _____ square feet.

6. Tenant's Share as adjusted based upon the exact number of usable square feet within the Premises is _____%.

"Landlord":

__,
a _____

By: _____

Its: _____

Agreed to and Accepted as
of _, 201 _.

"Tenant":

_____

a _____

By: _____

Its: _____

EXHIBIT D

SORRENTO GATEWAY

FORM OF TENANT'S ESTOPPEL CERTIFICATE

The undersigned as Tenant under that certain Lease (the "**Lease**") made and entered into as of _____, 20___ by and between _____ as Landlord, and the undersigned as Tenant, for Premises consisting of the entire office building located at _____, California, certifies as follows:

1. Attached hereto as **Exhibit A** is a true and correct copy of the Lease and all amendments and modifications thereto. The documents contained in **Exhibit A** represent the entire agreement between the parties as to the Premises.

2. The undersigned currently occupies the Premises described in the Lease, the Lease Term commenced on _____, and the Lease Term expires on _____, and the undersigned has no option to terminate or cancel the Lease or to purchase all or any part of the Premises, the Building and/or the Project.

3. Base Rent became payable on _____.

4. The Lease is in full force and effect and has not been modified, supplemented or amended in any way except as provided in **Exhibit A**.

5. Tenant has not transferred, assigned, or sublet any portion of the Premises nor entered into any license or concession agreements with respect thereto except as follows:

6. Tenant shall not modify the documents contained in **Exhibit A** without the prior written consent of Landlord's mortgagee.

7. All monthly installments of Base Rent, all Additional Rent and all monthly installments of estimated Additional Rent have been paid when due through _____. The current monthly installment of Base Rent is $_____.

8. All conditions of the Lease to be performed by Landlord necessary to the enforceability of the Lease have been satisfied and Landlord is not in default thereunder. In addition, the undersigned has not delivered any notice to Landlord regarding a default by Landlord thereunder. The Lease does not require Landlord to provide any rental concessions or to pay any leasing brokerage commissions.

9. No rental has been paid more than thirty (30) days in advance and no security has been deposited with Landlord except as provided in the Lease. Neither Landlord, nor its successors or assigns, shall in any event be 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 of the Premises, whether or not still held by any such prior landlord, unless and until the party from whom the security deposit is being sought, whether it be a lender, or any of its successors or assigns, has actually received for its own account, as landlord, the full amount of such security deposit.

10. As of the date hereof, there are no existing defenses or offsets, or, to the undersigned's knowledge, claims or any basis for a claim, that the undersigned has against Landlord.

11. If Tenant is a corporation or partnership, each individual executing this Estoppel Certificate on behalf of Tenant hereby represents and warrants that Tenant is a duly formed and existing entity qualified to do business in California and that Tenant has full right and authority to execute and deliver this Estoppel Certificate and that each person signing on behalf of Tenant is authorized to do so.

12. There are no actions pending against the undersigned under the bankruptcy or similar laws of the United States or any state.

13. Tenant is in full compliance with all federal, state and local laws, ordinances, rules and regulations affecting its use of the Premises, including, but not limited to, those laws, ordinances, rules or regulations relating to hazardous or toxic materials. Tenant has never permitted or suffered, nor does Tenant have any knowledge of, the generation, manufacture, treatment, use, storage, disposal or discharge of any hazardous, toxic or dangerous waste, substance or material in, on, under or about the Project or the Premises or any adjacent premises or property in violation of any federal, state or local law, ordinance, rule or regulation.

14. To the undersigned's knowledge, all tenant improvement work to be performed by Landlord under the Lease has been completed in accordance with the Lease and has been accepted by the undersigned and all reimbursements and allowances due to the undersigned under the Lease in connection with any tenant improvement work have been paid in full. All work (if any) in the common areas required by the Lease to be completed by Landlord has been completed and all parking spaces required by the Lease have been furnished and/or all parking ratios required by the Lease have been met.

The undersigned acknowledges that this Estoppel Certificate may be delivered to Landlord or to a prospective mortgagee or prospective purchaser, and acknowledges that said prospective mortgagee or prospective purchaser will be relying upon the statements contained herein in making the loan or acquiring the property of which the Premises are a part and that receipt by it of this certificate is a condition of making such loan or acquiring such property.

Executed at _____ on the ____ day of _____, 201_.

"Tenant":

_____,
a _____

By: _____
Its: _____

By: _____
Its: _____

EXHIBIT E

INTENTIONALLY OMITTED

EXHIBIT F

SORRENTO GATEWAY

ENVIRONMENTAL QUESTIONNAIRE

ENVIRONMENTAL QUESTIONNAIRE
FOR COMMERCIAL AND INDUSTRIAL PROPERTIES

Property Name:

Property Address:

Instructions: The following questionnaire is to be completed by the Lessee representative with knowledge of the planned operations for the specified building/location. Please print clearly and attach additional sheets as necessary.

1.0 PROCESS INFORMATION

Describe planned use, and include brief description of manufacturing processes employed.

2.0 HAZARDOUS MATERIALS

Are hazardous materials used or stored? If so, continue with the next question. If not, go to Section 3.0.

2.1 Are any of the following materials handled on the Property? Yes No

(A material is handled if it is used, generated, processed, produced, packaged, treated, stored, emitted, discharged, or disposed.) If so, complete this section. If this question is not applicable, skip this section and go on to Section 5.0.

Explosives	Fuels	Oils
Solvents	Oxidizers	Organics/Inorganics
Acids	Bases	Pesticides
Gases	PCBs	Radioactive Materials
Other (please specify)		

2-2. If any of the groups of materials checked in Section 2.1, please list the specific material(s), use(s), and quantity of each chemical used or stored on the site in the Table below. If convenient, you may substitute a chemical inventory and list the uses of each of the chemicals in each category separately.

Material	Physical State (Solid, Liquid, or Gas)	Usage	Container Size	Number of Containers	Total Quantity

2-3. Describe the planned storage area location(s) for these materials. Please include site maps and drawings as appropriate.

3.0 HAZARDOUS WASTES

Are hazardous wastes generated? Yes No

If yes, continue with the next question. If not, skip this section and go to section 4.0.

3.1 Are any of the following wastes generated, handled, or disposed of (where applicable) on the Property?

Hazardous wastes	Industrial Wastewater
Waste oils	PCBs
Air emissions	Sludges
Regulated Wastes	Other (please specify)

3-2. List and quantify the materials identified in Question 3-1 of this section.

WASTE GENERATED	RCRA listed Waste?	SOURCE	APPROXIMATE MONTHLY QUANTITY	WASTE CHARACTERIZATION	DISPOSITION

3-3. Please include name, location, and permit number (e.g. EPA ID No.) for transporter and disposal facility, if applicable). Attach separate pages as necessary.

Transporter/Disposal Facility Name	Facility Location	Transporter (T) or Disposal (D) Facility	Permit Number

3-4. Are pollution controls or monitoring employed in the process to prevent or minimize the release of wastes into the environment? Yes o No o

3-5. If so, please describe.

—

—

4.0 USTS/ASTS

4.1 Are underground storage tanks (USTs), aboveground storage tanks (ASTs), or associated pipelines used for the storage of petroleum products, chemicals, or liquid wastes present on site (lease renewals) or required for planned operations (new tenants)? Yes___ No___

If not, continue with section 5.0. If yes, please describe capacity, contents, age, type of the USTs or ASTs, as well any associated leak detection/spill prevention measures. Please attach additional pages if necessary.

Capacity	Contents	Year Installed	Type (Steel, Fiberglass, etc)	Associated Leak Detection / Spill Prevention Measures*

*Note: The following are examples of leak detection / spill prevention measures:

Integrity testing	Inventory reconciliation	Leak detection system
Overfill spill protection	Secondary containment	Cathodic protection

4-2. Please provide copies of written tank integrity test results and/or monitoring documentation, if available.

4-3. Is the UST/AST registered and permitted with the appropriate regulatory agencies? Yes o No o
If so, please attach a copy of the required permits.

4-4. If this Questionnaire is being completed for a lease renewal, and if any of the USTs/ASTs have leaked, please state the substance released, the media(s) impacted (e.g., soil, water, asphalt, etc.), the actions taken, and all remedial responses to the incident.

—

—

—

4-5. If this Questionnaire is being completed for a lease renewal, have USTs/ASTs been removed from the Property? Yes o No o

If yes, please provide any official closure letters or reports and supporting documentation (e.g., analytical test results, remediation report results, etc.).

4-6. For Lease renewals, are there any above or below ground pipelines on site used to transfer chemicals or wastes? Yes o No o

For new tenants, are installations of this type required for the planned operations?

Yes o No o

If yes to either question, please describe.

__

__

5.0 ASBESTOS CONTAINING BUILDING MATERIALS

Please be advised that an asbestos survey may have been performed at the Property. If provided, please review the information that identifies the locations of known asbestos containing material or presumed asbestos containing material. All personnel and appropriate subcontractors should be notified of the presence of these materials, and informed not to disturb these materials. Any activity that involves the disturbance or removal of these materials must be done by an appropriately trained individual/contractor.

6.0 REGULATORY

6-1. Does the operation have or require a National Pollutant Discharge Elimination System (NPDES) or equivalent permit? Yes o No o
If so, please attach a copy of this permit.

6-2. Has a Hazardous Materials Business Plan been developed for the site? Yes o No o
If so, please attach a copy.

CERTIFICATION

I am familiar with the real property described in this questionnaire. By signing below, I represent and warrant that the answers to the above questions are complete and accurate to the best of my knowledge. I also understand that Lessor will rely on the completeness and accuracy of my answers in assessing any environmental liability risks associated with the property.

Signature: __

Name: __

Title: __

Date: __

Telephone: __

EXHIBIT G
FORM OF LETTER OF CREDIT

(Letterhead of a money center bank
acceptable to the Landlord)

_____, 20__

_____
_____
_____
_____

Gentlemen:

We hereby establish our Irrevocable Letter of Credit and authorize you to draw on us at sight for the account of [**INSERT TENANT NAME**] ("Applicant"), a [**PLEASE PROVIDE**], the aggregate amount of _____ and ____ Dollars ($_____).

Funds under this Letter of Credit are available to the beneficiary hereof as follows:

Any or all of the sums hereunder may be drawn down at any time and from time to time from and after the date hereof by [_____] ("Beneficiary") when accompanied by this Letter of Credit and a written statement signed by a representative of Beneficiary, (i) certifying that Beneficiary is otherwise allowed to draw down on the Letter of Credit pursuant to the terms of that certain office lease by and between Beneficiary and Applicant dated [insert lease date], as amended (collectively, the "Lease"), (ii) certifying that Beneficiary is entitled to draw down the full amount of letter of credit no. _____ as the result of the filing of a voluntary petition under the U.S. Bankruptcy Code or a State Bankruptcy Code by the tenant under the Lease, which filing has not been dismissed at the time of this drawing, or (iii) certifying that Beneficiary is entitled to draw down the full amount of letter of credit no. _____ as the result of an involuntary petition having been filed under the U.S. Bankruptcy Code or a State Bankruptcy Code against the tenant under the Lease, which filing has not been dismissed at the time of this drawing.

This Letter of Credit is transferable in its entirety. Should a transfer be desired, such transfer will be subject to the return to us of this advice, together with written instructions.

The amount of each draft must be endorsed on the reverse hereof by the negotiating bank.

We hereby agree with you that if drafts are presented to the [bank name] under this Letter of Credit at or prior to 11:00 a.m. time, on a business day, and provided that such drafts presented conform to the terms and conditions of this Letter of Credit, payment shall be initiated by us in immediately available funds by our close of business on the succeeding business day. If drafts are presented to [bank name] under this Letter of Credit after 11:00 a.m. time, on a business day, and provided that such drafts conform with the terms and conditions of this Letter of Credit, payment shall be initiated by us in immediately available funds by our close of business on the second succeeding business day. As used in this Letter of Credit, "business day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the state of California are authorized or required by law to close. If the expiration date for this Letter of Credit shall ever fall on a day which is not a business day then such expiration date shall automatically be extended to the date which is the next business day.

We hereby engage with you that drafts drawn under and in compliance with the terms and conditions of this Letter of Credit will be duly honored by us if presented at our offices located at attention: (or at such other office of the bank as to which you have received written notice from us by registered mail, courier service or hand delivery, as being the applicable such address) on or before the then current expiration date. We agree to notify you in writing by registered mail, courier service or hand delivery, of any change in such address.

Presentation of a drawing under this Letter of Credit may be made on or prior to the then current expiration date hereof by hand delivery, courier service, overnight mail, or facsimile. Presentation by facsimile transmission shall be by transmission of the above required sight draft drawn on us together with this Letter of Credit to our facsimile number, (___) _____ attention: the manager, standby letter of credit department, with telephonic confirmation of our receipt of such facsimile transmission at our telephone number (___) _____ or to such other facsimile or telephone numbers, as to which you have received written notice from us as being the applicable such number). We agree to notify you in writing, by registered mail, courier service or hand delivery, of any change in such direction. Any facsimile presentation pursuant to this paragraph shall also state thereon that the original of such sight draft and Letter of Credit are being remitted, for delivery on the next business day, to [bank name] at the applicable address for presentment pursuant to the paragraph preceding this one.

This Letter of Credit shall expire on _____.

Notwithstanding the above expiration date of this Letter of Credit, the term of this Letter of Credit shall be automatically renewed for successive, additional one (1) year periods unless, at least sixty (60) days prior to any such date of expiration, the undersigned shall give written notice to Beneficiary, by certified mail, return receipt requested and at the address set forth above or at such other address as may be given to the undersigned by Beneficiary, that this Letter of Credit will not be renewed. (**FINAL EXPIRATION DATE NOT LESS THAN 120 DAYS FOLLOWING LEASE EXPIRATION DATE)**

This Letter of Credit is governed by the Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce Publication 500.

Very truly yours,
(Name of Issuing Bank)

By:_____

Exhibit 21.1

Subsidiaries of Sorrento Therapeutics, Inc.

Name	State or Jurisdiction of Incorporation or Organization
Concortis Biosystems, Corp.	Delaware
Sorrento Therapeutics, Inc. Hong Kong Limited	Hong Kong, China
Ark Animal Health, Inc.	Delaware
TNK Therapeutics, Inc.	Delaware
LA Cell, Inc.	Delaware
Sorrento Biologics, Inc.	Delaware
Scintilla Pharmaceuticals, Inc.	Delaware
BioServ Corporation	Delaware
Scilex Pharmaceuticals Inc.	Delaware
Levena Biopharma US, Inc.	Delaware
SiniWest Holding Corp.	Delaware
CARgenix Holdings LLC	Rhode Island
BDL Products, Inc.	Delaware
Levena San Diego Corp.	Delaware
Coentre Technologies LLC	Colorado
Concortis, Inc.	Delaware
Levena Suzhou Biopharma Co., Ltd.	People’s Republic of China
Sorrento Therapeutics (Shanghai) Co., Ltd.	People’s Republic of China
Nanjing Levena Biopharma Co. Ltd.	People’s Republic of China
SNAN Holdco LLC	Delaware
Virttu Biologics Limited	England and Wales

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-163670, 333-195487, 333-198307, 333-213130 and 333-227305 on Form S-8 and Registration Statement Nos. 333-192025, 333-212302, 333-214897, 333-217673, 333-220822, 333-221443, 333-223856, 333-223857, 333-228770 and 333-229609 on Form S-3 of our reports dated March 15, 2019, relating to the consolidated financial statements and financial statement schedule of Sorrento Therapeutics, Inc. and subsidiaries (the "Company") (which report expresses an unqualified opinion and includes an explanatory paragraph relating to substantial doubt about the Company's ability to continue as a going concern), and the effectiveness of Company's internal control over financial reporting (which report expresses an adverse opinion on the effectiveness of the Company's internal control over financial reporting because of material weaknesses), appearing in this Annual Report on Form 10-K of the Company for the year ended December 31, 2018.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
March 15, 2019

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
Pursuant to Rule 13a-14(a) adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Henry Ji, certify that:

1. I have reviewed this Annual Report on Form 10-K of Sorrento Therapeutics, Inc.;

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.

/s/ Henry Ji, Ph.D.

Henry Ji, Ph.D.
Chairman of the Board of Directors, Chief Executive Officer and President
(Principal Executive Officer)

Dated: March 15, 2019

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
Pursuant to Rule 13a-14(a) adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Jiong Shao, certify that:

1. I have reviewed this Annual Report on Form 10-K of Sorrento Therapeutics, Inc.;

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.

/s/ Jiong Shao

Jiong Shao
Chief Financial Officer
(Principal Financial Officer)

Dated: March 15, 2019

Exhibit 32.1

CERTIFICATIONS

Each of the undersigned, in his capacity as the principal executive officer and principal financial officer of Sorrento Therapeutics, Inc. (the "Company"), as the case may be, hereby certifies, 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), that, to the best of his knowledge:

1. This Annual Report on Form 10-K for the period ended December 31, 2018 fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. The information contained in this Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the period covered by this Annual Report.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission ("SEC") or its staff upon request.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of this Annual Report), irrespective of any general incorporation language contained in such filing.

IN WITNESS WHEREOF, the undersigned have set their hands hereto as of the 15th day of March 2019.

/S/ HENRY JI, PH.D.

Henry Ji, Ph.D.
Chairman of the Board of Directors, Chief Executive Officer and President
(Principal Executive Officer)

/S/ JIONG SHAO

Jiong Shao
Chief Financial Officer
(Principal Financial and Accounting Officer)