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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2019

OR

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

For the transition period from to

Commission File Number 001-37587

CytomX Therapeutics, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**27-3521219**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
151 Oyster Point Boulevard, Suite 400 South San Francisco, California	**94080**
(Address of principal executive offices)	**(Zip Code)**

(650) 515-3185

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.00001 par value	**CTMX**	**The Nasdaq Global Select Market**

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 Act. Yes ☐ No ☒

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 Exchange Act). Yes ☐ No ☒

As of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $501.8 million, based on the closing price of the registrant's common stock on the Nasdaq Global Select Market on June 28, 2019 of $11.22 per share. Shares of the registrant's common stock held by each officer and director and each person known to the registrant to own 10% or more of the outstanding common stock of the registrant have been excluded in that such persons may be deemed affiliates. This determination of affiliate status is not a determination for other purposes.

As of January 31, 2020, 45,566,551 shares of the registrant's common stock, $0.00001 par value per share, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement to be filed for its 2020 Annual Meeting of Stockholders are incorporated by reference into Part III hereof. Such proxy statement will be filed with the Securities and Exchange Commission within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

CYTOMX THERAPEUTICS, INC.
ANNUAL REPORT ON FORM 10-K
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Forward-Looking Statements

This Annual Report on Form 10-K contains certain forward-looking statements that involve risks and uncertainties. These forward-looking statements reflect our current views with respect to, among other things, future events and our financial performance. These statements are often, but not always, made through the use of words or phrases such as “may,” “might,” “should,” “could,” “predict,” “potential,” “believe,” “expect,” “continue,” “will,” “anticipate,” “seek,” “estimate,” “intend,” “plan,” “projection,” “would,” “annualized” and “outlook,” or the negative version of those words or other comparable words or phrases of a future or forward-looking nature. These forward-looking statements are not historical facts, and are based on current expectations, estimates and projections about our industry, management’s beliefs and certain assumptions made by management, many of which, by their nature, are inherently uncertain and beyond our control. Accordingly, we caution you that any such forward-looking statements are not guarantees of future performance and are subject to risks, assumptions, estimates and uncertainties that are difficult to predict. Although we believe that the expectations reflected in these forward-looking statements are reasonable as of the date made, actual results may prove to be materially different from the results expressed or implied by the forward-looking statements.

A number of important factors could cause our actual results to differ materially from those indicated in these forward-looking statements, including those factors identified in “Risk Factors” or “Management’s Discussion and Analysis of Financial Condition and Results of Operations” or the following:

- our expectations regarding the potential benefits, activity, effectiveness and safety of our product candidates and therapeutics developed utilizing our Probody® platform technology;
- the initiation, timing, progress and results of our ongoing clinical trials, research and development programs, preclinical studies, and regulatory submissions, including Investigational New Drug (“IND”) applications, Clinical Trial Applications, New Drug Applications (“NDA”) and, Biologics License Applications (“BLA”);
- the timing of the completion of our ongoing clinical trials and the timing and availability of clinical data from such clinical trials;
- our ability to identify and develop additional product candidates;
- our dependence on collaborators for developing, obtaining regulatory approval for and commercializing product candidates in the collaboration;
- our or a collaborator’s ability to obtain and maintain regulatory approval of any of our product candidates;
- our receipt and timing of any milestone payments or royalties under any research collaboration and license agreements or arrangements;
- our expectations and beliefs regarding the evolution of the market for cancer therapies and development of the immuno-oncology industry;
- the rate and degree of market acceptance of any approved product candidates;
- the commercialization of any approved product candidates;
- our ability to establish and maintain collaborations and retain commercial rights for our product candidates in such collaborations;
- the implementation of our business model and strategic plans for our business, technologies and product candidates;
- our estimates of our expenses, ongoing losses, future revenue and capital requirements;
- our ability to obtain additional funds for our operations;
- our or any collaborator’s ability to obtain and maintain intellectual property protection for our technologies and product candidates and our ability to operate our business without infringing, misappropriating or otherwise violating the intellectual property rights of others;
- our reliance on third parties to conduct our preclinical studies or any future clinical trials;
- our reliance on third-party supply and manufacturing partners to supply the materials and components for, and manufacture, our research and development, preclinical and clinical trial product supplies;
- our ability to attract and retain qualified key management and technical personnel;

- our ability to secure and maintain licenses of intellectual property to protect our technologies and product candidates;
- our financial performance; and
- developments relating to our competitors or our industry.

Any forward-looking statements in this Annual Report on Form 10-K reflect our current views with respect to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under Part I, Item 1A. Risk Factors and discussed elsewhere in this Annual Report on Form 10-K. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

This Annual Report on Form 10-K also contains estimates, projections and other information concerning our industry, our business and the markets for certain drugs and therapeutic biologics, including data regarding the estimated size of those markets, their projected growth rates and the incidence of certain medical conditions. Information that is based on estimates, forecasts, projections or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained these industry, business, market and other data from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which these data are derived.

Except where the context otherwise requires, in this Annual Report on Form 10-K, “we,” “us,” “our” and the “Company” refer to CytomX Therapeutics, Inc.

Trademarks

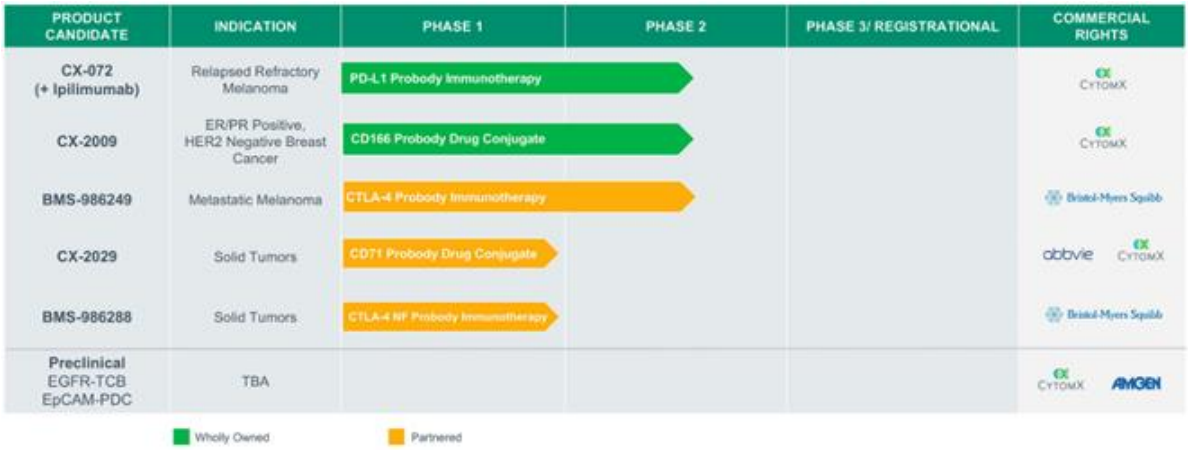
This Annual Report on Form 10-K includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included in this Annual Report on Form 10-K are the property of their respective owners.

PART I

Item 1. ***Business***

Overview

We are a clinical-stage, oncology-focused biopharmaceutical company with a vision of transforming lives with safer, more effective therapies. We are developing a novel class of investigational antibody therapeutics, based on our Probody® technology platform, for the treatment of cancer. Our innovative technology is designed to turn previously undruggable targets into druggable targets and to enable more effective combination therapies. Together with our partners, we have advanced five novel drug-candidates into clinical trials, three of which are in Phase 2 studies and two of which are in Phase 1 studies. We have strong industry partnerships with leading biotech and pharmaceutical companies. Our Probody therapeutic approach is designed to enable "conditional activation" of antibody-based drugs within cancer tissue to more specifically target the tumor microenvironment and minimize drug activity in healthy tissue and in circulation. We achieve conditional activation of antibodies by modifying them with a mask which blocks binding of the antibody to its target until the mask is removed. Mask removal occurs in cancer tissue when proteases, enzymes that are highly active in cancer but not normal tissue, selectively cleave the mask from the antibody, resulting in unmasked antibody activity in the tumor but not normal tissue. We believe this approach has the potential to develop clinically meaningful therapeutics and improve patient outcomes in three ways to improve patient outcomes: 1) by enhancing the "therapeutic window" for drug candidates, that is, the balance between their tolerability and activity; 2) by pursuing tumor targets that were previously considered "undruggable" due to their ubiquitous expression on normal tissues; and 3) by pursuing novel combination therapies that are poorly tolerated without using our Probody platform. We are developing a robust pipeline by leveraging our Probody platform to develop a product pipeline, shown below, of potential best-in-class immunotherapies against clinically validated targets and potential first-in-class therapeutics against novel, difficult to drug targets.



CytomX Pipeline of Probody Therapeutics

Our broad Probody therapeutic technology platform and lead product candidates are supported by more than a decade of thorough scientific research and strong intellectual property. We have established a broad worldwide patent estate of more than 135 issued, owned and co-owned patents and more than 325 pending, owned and co-owned patent applications. We also have an exclusive license from University of California, Santa Barbara ("UCSB") to three patent families covering screening tools to identify masks and substrates. We continue to conduct extensive research to create future generations of product candidates based on our Probody technology.

Cancer is the second leading cause of mortality in the United States and accounts for nearly one in every five deaths. Over the last twenty years, a new paradigm of cancer treatment has emerged that is focused on more targeted therapies, including monoclonal antibody modalities, and combination therapies aimed at multiple targets. In 2018, half of the top 10 best-selling drugs on the market were monoclonal antibodies with new classes of monoclonal antibody-based therapeutics having also recently reached the market. These new classes include antibody-based immunotherapies, Antibody Drug Conjugates ("ADCs"), T-cell engaging bispecific antibodies, and Chimeric Antigen Receptor ("CAR") based cellular therapies. We have demonstrated that our Probody therapeutic technology can be applied to many antibody modalities, including antibodies against immuno-oncology targets, ADCs, and T-cell engaging bispecific antibodies, and therefore we believe that significant opportunities exist for CytomX to develop and capture market

share with safer and more effective anti-cancer treatments. We believe there may be a significant opportunity to utilize our Probody platform to localize antibody therapeutics to the tumor microenvironment, creating new classes of anti-cancer therapeutics.

Wholly Owned Clinical Candidate Advancements

Our lead wholly owned product candidate is CX-072, a Probody therapeutic targeting programmed cell death ligand 1 ("PD-L1"), a clinically and commercially validated immuno-oncology target. Our vision for CX-072 is for this agent to become a novel and differentiated centerpiece for safer and more effective combination cancer therapies. In normal physiology, PD-L1 plays a role in suppressing the immune system in healthy tissue. Tumors can co-opt this inhibitory function by upregulating PD-L1 expression and evading anti-cancer immune surveillance. Inhibitors of the PD-L1 pathway have been designed and developed to restore anti-cancer immune surveillance resulting in anti-cancer activity and regulatory approval has been granted for several PD-L1 inhibitors. The related target, programmed cell death 1 ("PD-1"), functions in a similar manner to PD-L1 and several approved cancer therapies act on this target. Inhibitors of the PD-L1/PD-1 pathway have been approved for the treatment of many cancers including advanced melanoma, renal cell cancer, non-small cell lung cancer, bladder cancer and liver cancer. Additionally, PD-L1 and PD-1 inhibitors have become the centerpiece of many oncology combination therapies and continue to be studied in a wide range of new combination strategies. The combined commercial market for inhibitors of the PD-L1 and PD-1 pathways is predicted to exceed $45 billion by 2023.

While PD-L1 and PD-1 inhibitors have been shown to augment the anti-cancer immune response to elicit deep and durable tumor responses, these agents can also cause undesirable and widespread activation of the immune system in healthy tissues, resulting in the emergence of immune-related toxicities, often necessitating steroid-based interventions and discontinuation of treatment, sometimes permanently. These toxicities can be more serious or severe when PD-L1 or PD-1 inhibitors are combined with other anti-cancer immune-based agents. Our PD-L1 Probody therapeutic, CX-072, is designed to uncouple the anti-cancer activity associated with PD-L1 inhibition from its associated autoimmune toxicities by selectively inhibiting PD-L1 in the tumor microenvironment, thereby minimizing engagement of the immune system in healthy tissue. At the 2019 annual meeting of the American Society of Clinical Oncology ("ASCO") we presented clinical data showing the activity and tolerability of CX-072 monotherapy in a range of cancer types that supported the hypothesis that this agent could become a safer, more effective centerpiece of combination therapies. The reported activity of CX-072 was consistent with that expected from other PD inhibitors, including the observation of confirmed tumor responses, supporting our hypothesis that the antibody is selectively unmasked in the tumor microenvironment and has limited T-cell engagement in peripheral tissues. The safety findings of CX-072 were also favorable relative to other PD inhibitors with regard to immune-related adverse events.

With preliminary data from our ongoing studies indicating clinical proof of concept for CX-072 and the Probody platform, we have recently elected to focus our further development of CX-072 on combination strategies. To date, we have conducted two Phase 1 clinical trials evaluating CX-072 in combination therapy. The first is CX-072 in combination with the anti-CTLA-4 antibody ipilimumab. Our Phase 1 data for the CX-072 plus ipilimumab combination was most recently updated in October 2019 and based on these data, in October 2019, we announced the initiation of the Phase 2 clinical study, PROCLAIM CX-072-002, evaluating the safety and anti-cancer activity of CX-072 plus ipilimumab in patients with relapsed or refractory melanoma. The second Phase 1 combination study initiated with CX-072 evaluated the combination of CX-072 with the BRAF inhibitor vemurafenib. We are no longer pursuing this combination. We are planning to initiate a new Phase 1 clinical trial in 2020 of CX-072 in combination with our second wholly owned product candidate, CX-2009.

Our second wholly owned product candidate, CX-2009, is a Probody Drug Conjugate ("PDC") directed against CD166, a novel drug target. PDCs are CytomX-designed Probody therapeutic versions of a class of drugs called ADCs, which are antibodies that have been conjugated to a small molecule cytotoxic agent via a chemical linker to maximize their potency. After decades of research and development by many companies, the ADC field has made significant progress in recent years and at least seven ADCs have been now approved for the treatment of cancer in the United States and elsewhere, including Kadcyla®, which targets HER2-positive metastatic breast cancer, Adcetris®, which targets CD30 in Classical Hodgkin Lymphoma and Mylotarg®, which targets CD33 for the treatment of Acute Myeloid Leukemia. However, to avoid target-related toxicity, traditional ADCs have historically been limited to targeting proteins that are expressed highly in tumors, but that are also absent or minimally expressed in healthy tissues. Very few cancer-associated proteins have this desired profile. Because our Probody therapeutics are designed to remain masked in circulation, and thereby minimize binding to normal tissues, we believe we can address a new class of targets with high tumor expression that have previously been considered undruggable because of high expression on normal tissues and predicted severe side effects. Our PDC approach has the potential to expand the utility of ADCs for the treatment of cancer to many targets in this novel class and CD166 is an example of this type of target. CX-2009 is our Probody therapeutic directed to CD166 and conjugated to the cytotoxic agent DM4. In April 2019, we presented updated clinical data from our Phase 1 clinical trial of CX-2009 monotherapy, showing single agent anti-cancer activity for CX-2009 and that it was generally well-tolerated. Based on our Phase 1 clinical data, in December 2019, we announced that we were initiating a Phase 2 expansion study of CX-2009 in patients with hormone receptor (ER, PR) positive, HER2-negative breast cancer.

Collaborative Partner Advancements

In addition to our wholly owned programs, we have entered into several strategic collaborations with leading oncology-focused pharmaceutical companies, such as AbbVie Inc., through its subsidiary AbbVie Ireland Unlimited Company ("AbbVie"), Amgen, Inc. ("Amgen") and Bristol-Myers Squibb Company ("Bristol-Myers Squibb"). These collaborations are intended to advance additional product candidates into clinical development and potentially to the commercial market based on our Probody technology platform.

The most advanced product candidate from our partnerships is BMS-986249, an investigational CTLA-4 Probody therapeutic, which Bristol-Myers Squibb recently advanced into a randomized Phase 2 cohort expansion in patients with metastatic melanoma in combination with the PD-1 inhibitor nivolumab triggering, in February 2020, a $10.0 million milestone payment to us. In September 2019, Bristol-Myers Squibb initiated the dose escalation phase of a Phase 1/2a clinical trial of a second anti-CTLA-4 Probody, BMS-986288, based on a modified version of ipilimumab, administered as monotherapy and in combination with nivolumab in patients with selected advanced solid tumors. These collaborative programs with Bristol-Myers Squibb are designed to optimize the risk-benefit profile of CTLA-4-directed therapy.

Throughout 2019, in partnership with AbbVie, we also continued to enroll and treat patients in PROCLAIM-CX-2029, a Phase 1/2 clinical study of CX-2029, a PDC targeting the highly expressed target, CD71. The CX-2029 program is intended to open a therapeutic window for CD71 which is widely considered to be a high potential but previously undruggable target. In July 2019, AbbVie also selected a second research target under our 2016 discovery collaboration and licensing agreement (the "Discovery Agreement") to develop PDCs and we received a $10.0 million payment in connection with such selection.

In December 2019, we in-licensed exclusive worldwide development and commercial rights from ImmunoGen, Inc. ("ImmunoGen") to a PDC targeting epithelial cell adhesion molecule ("EpCAM"). This program was originally developed by ImmunoGen utilizing our Probody technology and ImmunoGen's next-generation linker chemistry and novel maytansinoid payload, DM-21, and arose from our 2014 strategic collaboration with ImmunoGen. EpCAM is a target that is highly expressed on a wide variety of tumor types but is considered difficult to drug due to its wide expression on normal tissues. Pre-clinical data presented by ImmunoGen at the 2018 European Antibody Congress and the 2019 Annual Meeting of American Association for Cancer Research ("AACR") indicate that PDCs against EpCAM elicit potent tumor regression in multiple tumor models while minimizing anticipated on-target toxicities outside the tumor microenvironment. We anticipate moving this program into IND-enabling studies during 2020.

We have also extended our Probody platform to the new and promising modality of T-cell engaging bispecific antibodies ("TCBs"). TCBs are a highly potent therapeutic modality, designed to direct the activity of cytotoxic T-cells to tumors. TCBs such as Blincyto®, a CD19-directed TCB commercialized by Amgen, have shown clinical activity in hematologic malignancies, but development of TCBs for solid tumor indications is challenging. Due to their high potency, TCBs can target normal tissues with low antigen expression, resulting in significant on-target, off-tumor toxicity that can limit dosing to low levels. As a result, it has been difficult to reach the level of drug exposure required for efficacy without excessive toxicity. We believe that the Probody platform is potentially capable of localizing the activity of TCBs to the tumor microenvironment and avoiding on-target, off-tumor toxicity.

Our most advanced program in the TCB modality is an Epidermal Growth Factor Receptor-CD3 ("EGFR-CD3") T-cell bispecific which is partnered with Amgen. We anticipate advancing a lead candidate for this program during 2020.

The successful development of our product candidates 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. This is due to the numerous risks and uncertainties associated with the development of product candidates. If our Probody therapeutic technology and product candidates generally prove to be ineffective, unsafe or commercially unviable, it would have a material and adverse effect on our business, financial condition, results of operations and prospects. See "Risk Factors" for a discussion of the risks and uncertainties associated with our product candidates and our research and development projects.

Our Corporate Strategy

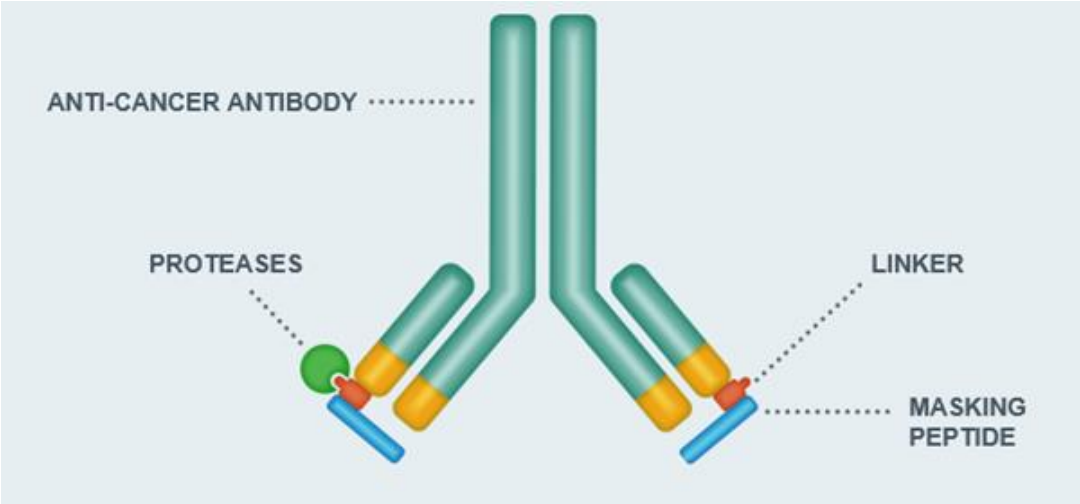
We are utilizing our proprietary and differentiated Probody platform to develop a leading pipeline of novel, innovative anti-cancer therapies to improve the lives of people with cancer and to build a long-term, multi-product, commercial stage biotechnology company. We aim to achieve this goal by:

- Applying our Probody platform to develop novel and improved combination therapies based on validated immuno-oncology targets and pathways that we believe have the potential to improve outcomes for cancer patients. For example, we are studying CX-072, our PD-L1 Probody therapeutic candidate, in combination with the CTLA-4 inhibitor, ipilimumab, in an ongoing Phase 2 clinical trial.

- Applying the Probody platform to discover and develop potentially first-in-class therapies against novel targets that have not yet been drugged because of broad expression in healthy tissue. Our wholly owned CD-166 Probody Drug Conjugate (CX-2009) and partnered CD-71 Probody Drug Conjugate (CX-2029) are our most advanced programs in this class of targets.
- Applying our Probody platform to enable new potent therapeutic antibody formats, thereby positioning ourselves at the cutting edge of anti-cancer therapeutic research and development. For example, we are collaborating on a Probody therapeutic version of an EGFR-CD3 T-cell engaging Probody bispecific with Amgen.
- Partnering with leading biopharmaceutical companies to access capital, additional resources and expertise, as well as increase the number of Probody therapeutic candidates being advanced into clinical trials. To date, we have formed several strategic collaborations, including with AbbVie, Amgen, Bristol-Myers Squibb, and others.
- Accessing technologies or programs that can complement our Probody platform and our pipeline through licenses or acquisitions. For example, in early 2019 we acquired certain linker-toxin and bispecific technologies from an affiliate of Astellas Pharma, Inc. to complement our Probody platform and in December 2019 we in-licensed ImmunoGen's ongoing EPCAM PDC program.
- Fostering a unique, patient-focused culture of execution, alignment and accountability centered around our vision, mission and values.

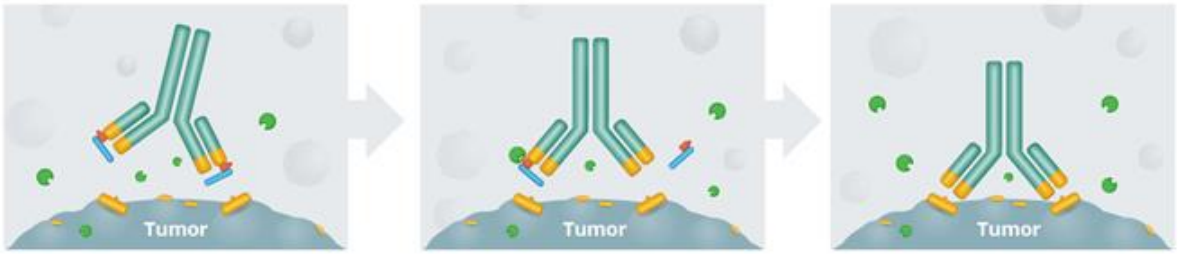
Our Probody Platform

Localization of therapeutic antibody activity within disease tissue is of increasing interest in the biopharmaceutical industry due to the desire to maximize the activity of antibody-based drugs while reducing their toxicities. At CytomX, we call our approach to therapeutic antibody localization our Probody platform. A Probody therapeutic consists of three components: an active anti-cancer antibody, a mask for the antibody, and a protease-cleavable linker which connects the mask to the antibody. The mask is a peptide designed to disguise the active binding site of the antibody to prevent the therapeutic from binding to the target present on healthy tissue. Probody therapeutics are produced as a single protein by standard antibody production methodology. The following graphic depicts the three components of a Probody therapeutic:



Depiction of the structure of a Probody therapeutic and a protease interacting with the Probody to cleave the linker and activate the molecule

When a Probody therapeutic enters a tumor, it encounters proteases, which are enzymes that cleave proteins and have increased activity in the tumor microenvironment. The proteases in the tumor cleave the linker, releasing the mask and allowing the antibody to bind to the target on the tumor. The following graphic depicts the activation of a Probody therapeutic by proteases:



Depiction of how a Probody therapeutic is designed to enter the tumor microenvironment (left), be activated by protease cleavage to remove the mask (middle), thereby enabling the released antibody to bind to the tumor target (right)

Proteases play an essential role in many aspects of normal physiology, such as digestion of food in the gastrointestinal tract, wound healing and metabolic function. However, uncontrolled protease activity can lead to destruction of essential proteins and tissues. Therefore, proteases are normally very tightly regulated by multiple mechanisms, with only small amounts of extracellular protease activity being detectable in healthy tissues. In contrast, it has been well documented that proteases are not only present, but also activated, in virtually all types of tumors, playing a key role in tumor growth, invasion and metastasis. Probody therapeutics are designed to be activated in this protease-rich tumor microenvironment, but not in healthy tissue where proteases are under tight control.

Probody therapeutics are designed to limit toxicity that can arise from the binding of an antibody to a target in healthy tissues while preserving biological activity in the tumor where it is desired. We and our partners have demonstrated the potential applicability of our Probody platform across multiple monoclonal antibody modalities, including cancer immunotherapy, ADCs, and T-cell-recruiting bispecifics.

Key Advantages of Our Probody Platform

We believe that our Probody platform provides the following key advantages:

- ***A novel therapeutic antibody class enabled by our proprietary platform.*** We believe we have a differentiated technology platform that gives us a substantial competitive advantage supported by more than a decade of research and a strong intellectual property portfolio.
- ***Potential to improve the therapeutic window of antibody-based therapeutics.*** By engineering our therapeutics to selectively activate in the tumor microenvironment, our Probody product candidates have the potential to improve safety and tolerability.
- ***Ability to combine more effectively with other therapies.*** We believe the therapeutic window and tumor specificity of our candidates have potential to reduce the dose-limiting toxicities observed in combination therapies and thus enable new combinations with other cancer therapies that are difficult or impossible to use.
- ***Applicability across many molecular targets.*** We believe that our technology addresses many different molecular targets expressed by many different kinds of tumors—including targets that are difficult to address because they are also expressed on healthy tissue—because Probody therapeutics are designed to have limited interaction with non-cancerous tissues.
- ***Versatility across antibody modalities.*** We believe that our technology can be applied to most antibody-based therapies, including novel potent modalities like ADCs and T-cell-recruiting bispecific antibodies.

Our Lead Product Candidates

We are leveraging our Probody platform to build a leading pipeline of innovative and differentiated anti-cancer therapies. We currently retain worldwide development and commercialization rights to two of our most advanced Probody therapeutics in the clinic, CX-072 and CX-2009. In addition, we have multiple partnered development programs, including BMS-986249 and BMS-986288, both anti-CTLA-4 Probody programs with Bristol-Myers Squibb, and CX-2029, an anti-CD71 PDC program in collaboration with AbbVie.

CX-072 (PD-L1 Probody therapeutic) Program

Overview and Limitations of Existing Therapies

Our most advanced product candidate is CX-072, a wholly owned Probody therapeutic targeting PD-L1, a clinically and commercially validated cancer target. The PD pathway consists principally of two targets: PD-1, which is typically expressed on T-cells, and PD-L1, which is typically expressed on the tumor cells as well as on healthy tissue. In healthy tissue, PD-1 and PD-L1 work together to negatively regulate immune response and maintain tolerance between the immune system and healthy tissue. Tumors, however, upregulate PD-L1 to evade immune surveillance by the host's immune system. Therefore, development of antibodies against PD-1 and PD-L1 have become a key focal point in cancer drug development, with three PD-1 antibodies nivolumab (Opdivo®), pembrolizumab (Keytruda®), and cemiplimab (Libtayo®) and three PD-L1 antibodies atezolizumab (Tecentriq®), durvalumab (Imfinzi®), and avelumab (Bavencio®) approved as of January 2020, with many other PD pathway inhibitors in clinical development. In addition to assessment as single agents, PD-1 and PD-L1 antibodies have been studied extensively as the centerpiece of oncology combination therapies. According to the Cancer Research Institute, as of November 2019, there were in excess of 2,000 combination studies ongoing with a PD-1 or PD-L1 therapeutic.

While inhibitors of the PD-L1 and/or PD-1 pathway offer the potential for clinical benefit in patients with a wide-variety of cancer types, there are a number of risks imposed by administration of these agents. According to U.S. labels for Opdivo, Keytruda, Tecentriq, Bavencio, and Imfinzi, the most common side effects (defined as either >15% or >20%, depending upon the agent) that were observed with commercially available anti-PD-L1 and anti-PD-1 agents include: fatigue, decreased appetite, nausea, vomiting, diarrhea, dyspnea, constipation, cough, musculoskeletal pain, back pain, abdominal pain, arthralgia, urinary tract infection, upper respiratory tract infection, peripheral edema, infusion-related reaction, rash, asthenia, pruritus, headache, and pyrexia.

Combining a PD pathway inhibitor with another anti-cancer agent often results in significantly greater toxicity than monotherapy alone. One example is the combination of nivolumab (a PD-1 inhibitor marketed by Bristol-Myers Squibb as Opdivo®) and ipilimumab. According to data reported in 2015 in *The New England Journal of Medicine*, the combination of nivolumab at 1 mg/kg and ipilimumab at 3mg/kg resulted in Grade 3/4 treatment related adverse events (TRAEs) in 55% of the patients treated and drug discontinuations in 36% of the patients treated.

We believe that a locally activated Probody therapeutic targeting PD-L1 has the potential to maintain the anti-tumor activity of the PD pathway blockade while reducing the autoimmunity that results from blocking such pathway systemically. As such, we believe that CX-072 has the potential to enable combination therapies that cannot be appropriately dosed because of synergistic toxicity, and ultimately that CX-072 may have the potential to play an important role in combination therapy. CX-072 may also ultimately prove to be a safer monotherapy than existing PD inhibitors which could have specific applications in certain clinical settings.

PROCLAIM-CX-072 Clinical Program

PROCLAIM-CX-072-001 was designed to assess the tolerability and preliminary antitumor activity of multiple doses of CX-072 as a monotherapy or as a combination therapy with ipilimumab (Bristol-Myers Squibb's Yervoy®) or vemurafenib (Roche's Zelboraf®) in patients with advanced, unresectable solid tumors or lymphoma.

Part A and A2- Monotherapy Dose Escalation

Clinical data from PROCLAIM-CX-072 were first presented in 2018 at meetings of ASCO, the European Society of Medical Oncology ("ESMO") and the Society for Immunotherapy of Cancer ("SITC") and, in 2019 at the Research and Development Day we hosted in February 2019 (the "CytomX 2019 R&D Day") and the ASCO Annual Meeting. Part A enrolled patients who were PD agent naïve and were either ineligible to receive or did not have access to PD-1 or PD-L1 agents for their disease. We did not pre-select patients based on their PD-L1 status in this arm. As such, we enrolled a broad range of tumor types in Part A, including patients with tumors that were not necessarily expected to respond to PD-L1 therapy. Part A2 of the clinical trial also enrolled patients with a broad range of cancer types, with enrollment restricted to those patients whose tumors are PD-L1 positive based on the commercially available DAKO assay. As with Part A, the tumor types enrolled into Part A2 were not necessarily expected to respond to CX-072. Part A2 also required mandatory collection of tumor biopsies from patients which were analyzed as part of our translational program.

Data from the monotherapy dose escalation arms of the trial, presented at ESMO 2018 and developed with an August 2018 data cut, showed that among 38 evaluable patients who received CX-072, objective responses by Response Evaluation Criteria in Solid Tumors ("RECIST") version 1.1 were observed in three (8%) patients, all treated at doses greater than or equal to 3 mg/kg: PD-L1 negative triple negative breast cancer (confirmed partial response (cPR); 10 mg/kg), thymic cancer (unconfirmed partial response ("uPR"); 3 mg/kg), and cervical cancer (uPR; 10 mg/kg). Stable disease was observed in 15 (39%) patients for an overall disease control rate of 47%. For the 18 patients who received CX-072 doses greater than or equal to 3 mg/kg, objective responses were observed in 3 of 18 (17%) patients and the disease control rate was 61%. Decreased target lesions were observed in 14 of 37 (38%) patients of all evaluable patients with measurable disease at baseline and in 10 of 17 (59%) patients of the subset of patients who received doses greater than or equal to 3 mg/kg of CX-072.

We presented translational data at SITC in November 2018 that demonstrates that CX-072 appears to function as designed in cancer patients. We reported that protease activity was detected in the majority of patient tumors, and that CX-072 was unmasked and activated in tumor biopsies taken from treated patients. Further, CX-072 remained predominantly intact in circulation. Intratumoral concentrations of activated CX-072 are sufficient for >90% target occupancy and were similar to those associated with efficacy in a preclinical model. At the CytomX 2019 R&D Day, we additionally reported that CX-072 localized to tumors in cancer patients, suggesting unmasking and target engagement, as determined by 89Zr-labeled CX-072 whole body Immuno-PET imaging. Finally, CX-072 treatment was associated with expansion of intratumoral CD8+ T cells, indicating that CX-072 produced a biological effect in tumors consistent with blockade of the PD-1/PD-L1 pathway. Taken together, these translational data provide mechanistic support for the Probody platform.

At the CytomX 2019 R&D Day, we presented follow-up data from this trial, focusing on doses greater than or equal to 3 mg/kg in the dose escalation study as of a February 6, 2019 data cut. Of 24 efficacy evaluable patients treated with doses greater than or equal to 3mg/kg of CX-072, 4/24 (17%) objective responses were observed, including 1 confirmed partial response, 2 unconfirmed partial responses in patients who are no longer on study and 1 unconfirmed partial response in a patient whose confirmation scan was pending at the time. Additionally, 12 (50%) patients demonstrated tumor shrinkage or stable disease. From these results, we concluded that CX-072 showed anti-cancer activity. Enrollment is complete with patient follow up continuing.

Following thorough analysis of data from Parts A and A2, we selected 10 mg/kg as the dose for initial Part D cohort expansion studies, which we initiated in 2018. This dose was chosen because:

- We observed anti-cancer activity at and below 10 mg/kg in our dose escalation studies
- The 10 mg/kg dose of CX-072 produced favorable safety results (described below)
- Translational data suggested that, at this dose, more than 98% of PD-L1 receptor in the tumor was occupied by CX-072
- All patients treated at the 10 mg/kg dose achieved and maintained targeted drug exposure. Moreover, satisfactory drug exposure was achieved regardless of whether patients showed evidence of anti-drug antibodies

Part D Monotherapy Expansion Cohort

In 2018, we initiated Part D of the PROCLAIM-CX-072-01 program, a monotherapy cohort expansion study to assess CX-072 in eight specific cancer types: undifferentiated pleiomorphic sarcoma (UPS), thymic epithelial cancer (TEC), triple negative breast cancer (TNBC), anal squamous cell cancer (aSCC), cutaneous squamous cell cancer (cSCC), Merkel cell carcinoma (MCC), small bowel carcinoma (SBC) and cancers with high tumor mutational burden (hTMB). Part D was designed to assess the safety and efficacy of CX-072 at 10 mg/kg administered every two weeks. At the CytomX 2019 R&D Day, we presented initial clinical data in four of the eight tumor types: cSCC, TNBC, SCC and UPS. Preliminary data from 34 efficacy evaluable patients showed a pattern of anti-cancer activity generally consistent with historical data for other PD inhibitors. Of 50 patients evaluable for safety in the four cancers tested as of the data cutoff date for Part D, CX-072 as monotherapy was generally well tolerated, with 21 (42.0%) patients experiencing a Grade 3/4 TEAE, 2 (4%) patients experiencing a Grade 3/4 TRAEs, 2 (4%) patients experiencing a Grade 3/4 immune-related adverse events (irAE) and no discontinuation for treatment-related toxicity. These data compare favorably to historical controls where the rate of Grade 3/4 TRAEs in patients receiving PD-pathway inhibitors and TRAEs leading to discontinuation are 15% and 8%, respectively.

At ASCO in June 2019, we presented additional data from Part D in multiple selected tumor types. Data was reported in patients with TNBC, aSCC, cSCC, UPS and SBA. As of an April 2019 data cutoff, 72 patients had been enrolled and treated across the five reported cohorts. Among the 65 patients evaluable for efficacy, confirmed partial responses were observed in two patients with TNBC, one in a patient with cSCC and one in a patient with UPS. A partial response, unconfirmed at the time of data cutoff, was subsequently confirmed in an aSCC patient. These data showed disease control rates of 53% (8/15) in TNBC, 58% (7/12) in aSCC, 67% (4/6) in cSCC, 25% (5/20) in UPS, and 17% (2/12) in SBA. Decreases in target lesion size were observed in the first 8 to 16 weeks of treatment. Responding patients remained on CX-072 for up to 72 weeks. Patients enrolled were generally heavily pretreated with a median number of three prior regimens before receiving CX-072. As of the data cutoff, CX-072 monotherapy was generally well tolerated. Of the 72 patients evaluable for safety, 6% of patients experienced a grade ≥3 TRAE, and 3% experienced grade ≥3 immune related adverse event (irAEs) with no (0%) TRAEs leading to treatment discontinuation. Enrollment in Part D is complete with evaluation of the activity and tolerability of CX-072 monotherapy continuing with ongoing treatment in select cohorts. We expect to provide additional follow up data in 2020. At this time, we are not pursuing additional monotherapy clinical trials, however, we may elect to do so in the future.

Part B CX-072 in Combination with Ipilimumab

Combining a PD pathway inhibitor with another anti-cancer agent often results in significantly greater toxicity than monotherapy alone. One example is the combination of nivolumab (a PD-1 inhibitor marketed by Bristol-Myers Squibb as Opdivo®) and ipilimumab. Ipilimumab, marketed by Bristol-Myers Squibb as Yervoy®, is an anti-CTLA4 therapeutic antibody that has been approved for the treatment of various cancers including advanced melanoma. CTLA-4 is an immune checkpoint protein involved in regulating T-cell activation. According to data reported in 2015 in the New England Journal of Medicine, the combination of nivolumab at 1 mg/kg and ipilimumab at 3mg/kg resulted in Grade 3/4 TRAEs in 55% of the patients treated and drug discontinuations in 36% of the patients treated. We are investigating whether CX-072 has the potential to more safely combine with ipilimumab, resulting in improved outcomes for patients. More specifically, we are investigating whether CX-072 can enable the use of the full labelled dose of ipilimumab of 3 mg/kg in combination studies. It is well established that higher doses of ipilimumab can be more effective in the treatment of cancer. However, higher doses are also more toxic to patients, particularly in combination with PD pathway inhibitors. If we are able to treat patients safely with CX-072 in combination with full dose ipilimumab, this has the potential to deliver improved outcomes for patients in the form of deeper and more durable anti-cancer responses.

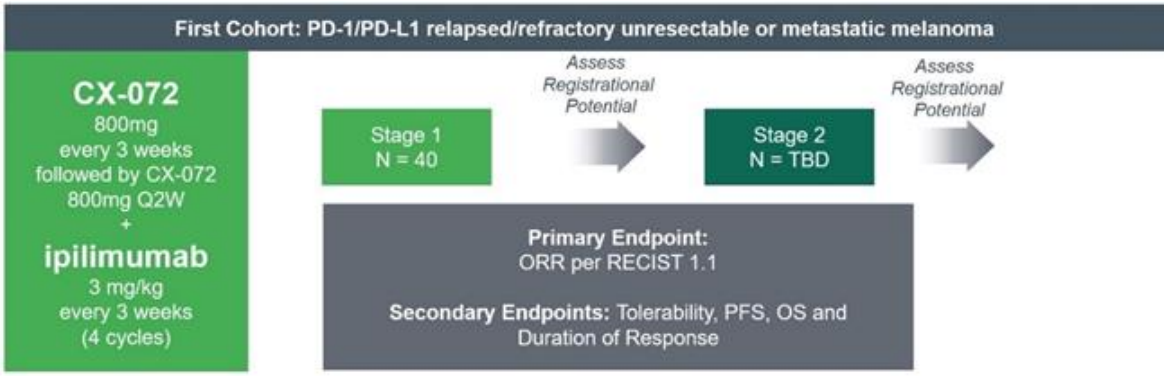
Part B of PROCLAIM-CX-072 was designed to assess the combination of CX-072 with ipilimumab dosed at its full labeled dose (3 mg/kg every three weeks for four cycles). In Part B, we tested doses of CX-072 from 0.3 mg/kg to 10 mg/kg with a combination of ipilimumab at 3 mg/kg. The maximum tolerated dose (MTD) was defined as the combination of 3 mg/kg of ipilimumab and 10 mg/kg of CX-072.

In October 2019, we presented interim data showing that among 27 evaluable patients who received ipilimumab (3, 6 or 10 mg/kg) combined with CX-072 (0.3, 1, 3 or 10 mg/kg), the disease control rate (stable disease or better) was 37%. Five patients achieved confirmed objective responses by RECIST v1.1, including one complete response, for an ORR of 19% in these heavily pretreated patients. The median duration of response was 14.6 months (1.9 - 21.2 months) with four of the five responders still on treatment as of October 2019. We also announced that the recommended combination dose for further investigation was 3 mg/kg of ipilimumab and 10 mg/kg of CX-072 (dose equivalent of 800 mg). This combination was generally well tolerated with no new safety signals observed. Of the 27 patients treated across all doses, Grade 3/4 TRAEs were reported in nine (33%) patients and Grade 3/4 irAEs were reported in six (22%) patients. Of the 20 patients treated with ipilimumab at 3 mg/kg at varying doses of CX-072, Grade 3/4 TRAEs were reported in five (25%) patients and Grade 3/4 irAEs were reported in three (15%) patients. Enrollment in Part B is complete with evaluation of the activity and tolerability continuing with ongoing treatment. As a result of the data in Part B, in October 2019, we elected to conduct a Phase 2 clinical trial studying CX-072 in combination with ipilimumab. We plan to initiate a clinical study of CX-072 in combination with CX-2009 during 2020.

Phase 2 - PROCLAIM-CX-072-002 Combination with Ipilimumab

PROCLAIM-CX-072-002 was initiated in October 2019 and is an open-label, multi-center Phase 2 clinical trial evaluating CX-072 in combination with ipilimumab in patients with unresectable or metastatic melanoma whose disease has progressed or relapsed following treatment with a PD-1/PD-L1 immune checkpoint inhibitor. This study will assess the efficacy and tolerability of a fixed dose of 800 mg of CX-072 every three weeks in combination with ipilimumab at the full labelled dose and schedule of 3 mg/kg every three weeks for four cycles. CX-072 therapy will be continued once every two weeks after the completion of the combination phase until disease progression. The primary objective is overall response rate (ORR) as defined by RECIST v1.1 with secondary objectives evaluating the safety and tolerability of CX-072. The cohort utilizes a Simon 2 Stage design with approximately 40 patients being enrolled into Stage 1 with additional patients being enrolled into Stage 2, pending the outcome of Stage 1. CytomX anticipates initial data from Stage 1 during 2020.

Melanoma is a life-threatening form of skin cancer. The incidence of melanoma has been increasing over the last 40 years, with about 150,000 newly diagnosed patients across major markets in 2018. In the unresectable/metastatic setting, approximately 60% of melanoma patients will receive immune checkpoint blockade, (approximately 35% BRAF+ patients and 45% BRAF WT) and approximately 85% of those patients will progress. For patients with unresectable/metastatic melanoma who progress, there are limited treatment options available. The figure below describes the design of PROCLAIM-CX-072-001.



PFS – Progression free survival ***OS – Overall survival***

Part C CX-072 Combination with Vemurafenib

Part C of the PROCLAIM-CX-072 Phase 1/2 clinical trial was designed to assess escalating doses of CX-072 (1, 3 or 10 mg/kg administered IV every two weeks) in combination with the approved dose of Zelboraf® (vemurafenib: 960mg twice daily) in patients with V600E BRAF-positive melanoma. This study was designed to evaluate whether CX-072 could be more safely and effectively combined with vemurafenib than the combination of the anti-PD-L1 antibody, atezolizumab, plus vemurafenib, which has been shown by others to be severely toxic. A total of 11 patients with unresectable, V600E BRAF positive melanoma were enrolled during 2018 and 2019 into this study arm, principally in Eastern Europe. Patients were assigned to dose escalation cohorts evaluating 960mg BID vemurafenib with 1 mg/kg CX-072 (n=3), 3 mg/kg CX-072 (n=6) or 10 mg/kg CX=072 (n=2). During 2019, enrollment into this study arm was closed, prior to its completion. At the time of enrollment closure, there was one confirmed partial response and one confirmed complete response per RECIST v1.1. The median number of CX-072 doses administered was 6 (range 1-30). Three patients experienced Grade 3+ TRAE of lymphopenia (n=1), lipase increase (n=1) and elevated bilirubin (n=1). There were no reported Grade 3+ irAEs. We do not intend to pursue this combination further. Since the initiation of this study arm, based on the work of others, the standard of care for patients with V600E BRAF-positive melanoma has advanced to doublet combination therapy (BRAF plus MEK inhibition). The triple combination of PD-L1 inhibition, BRAF inhibition and MEK inhibition is also currently being studied by others.

Additional Combination Therapies

We are aiming to initiate a new clinical study of CX-072 in combination with CX-2009 in 2020 and continue to evaluate the potential for additional combination therapy trials with CX-072.

CX-2009 (CD166 Probody Drug Conjugate) Program

Overview and Limitations of Existing Therapies

Our second most advanced product candidate is CX-2009, a wholly owned PDC directed against CD166, a novel target that would be traditionally considered difficult to drug, and which we are currently evaluating in a Phase 2 clinical trial. PDCs are unique, CytomX-designed Probody therapeutic versions of a class of drugs called Antibody Drug Conjugates (ADCs), which are antibodies that have been conjugated to a small molecule cytotoxic agent via a chemical linker. At least seven ADCs have been approved for the treatment of cancer in the United States and elsewhere, including Kadcyla®, which targets HER2-positive metastatic breast cancer, and Adcetris®, which targets CD30 in Classical Hodgkin Lymphoma and Mylotarg® which targets CD33 for the treatment of Acute Myeloid Leukemia. To avoid target-related toxicities, traditional ADCs have historically been limited to targeting proteins that are expressed highly in tumors, but that are also absent or poorly expressed in healthy tissues. Very few cancer-associated proteins have this desired profile. Because our Probody therapeutics are designed to minimize binding of potent anti-cancer therapy to normal tissues, we believe we can address a new class of targets with attractive features that were previously unsuitable because of expression on normal tissues. We have a broad research program at CytomX aimed at discovering and validating this new class of targets and CD166 is the first such target for which we advanced a PDC product candidate into clinical trials. CD166 is highly and homogenously expressed in multiple different tumors types, which makes it an attractive target for a Probody drug conjugate therapeutic; however, the high expression of CD166 on normal tissues makes this a difficult target to drug with a traditional ADC.

CX-2009 is derived from a CytomX discovered and humanized CD166 antibody that exhibits high affinity binding to CD166. Using our proprietary technology, we used this antibody to engineer a Probody therapeutic targeting CD166 that is designed to be masked when active proteases are absent but can be specifically activated by any one of several different tumor-associated proteases. Furthermore, through a license from ImmunoGen, we have gained access to the potent microtubule inhibiting payload DM4 which we conjugated to the anti-CD166 Probody, resulting in CX-2009; a PDC designed to bind to CD166 specifically in the tumor microenvironment. The design of CX-2009 is intended to maximize the anti-cancer potential of CD166 by targeting the antibody-conjugated cytotoxic payload, DM4, to tumor cells but not normal cells that express CD166.

PROCLAIM-CX-2009 Clinical Program

PROCLAIM-CX-2009-001 is a Phase 1/2 clinical trial evaluating the tolerability and preliminary antitumor activity of CX-2009 as a monotherapy, which we initiated in June 2017. This study is in seven tumor types that have high CD166 expression: breast carcinoma, castration-resistant prostate carcinoma, cholangiocarcinoma, endometrial carcinoma, epithelial ovarian carcinoma, head and neck squamous cell carcinoma and non-small cell lung carcinoma. The figure below describes the design of PROCLAIM-CX-2009-001.

Design and status of PROCLAIM-CX-2009-001 Phase 1/2 clinical trial

Part A; A2- Monotherapy Dose Escalation

At the CytomX 2019 R&D Day, we presented data as of a February 6, 2019 data cutoff on 76 patients treated at doses ranging from 0.25 to 10 mg/kg of CX-2009 every three weeks. Preliminary data from 46 efficacy evaluable patients demonstrated evidence of anti-cancer activity observed at doses of greater than or equal to 4 mg/kg. Tumor shrinkage was observed in 16 (34.8%) patients in multiple tumor types with 5 unconfirmed partial responses (2 each in ovarian and breast cancers and one in head and neck cancer). Of note, comparable levels of anti-cancer activity were observed in patients who were PD-pathway inhibitor naive or resistant, respectively.

CX-2009 was generally well tolerated and the MTD was not reached. Of the 76 patients, 47 (61.8%) patients experienced a Grade 3/4 TEAEs and 23 (30.3%) patients experienced a Grade 3/4 TRAE. The most common adverse event observed was ocular toxicity, an anticipated toxicity associated with the DM4 payload.

In April 2019, we presented updated interim safety and antitumor data from the dose-escalation phase (Part A and A2) of the ongoing PROCLAIM-CX-2009-001 study at the annual meeting of the AACR. As of a February 26, 2019 data cutoff, 78 patients were enrolled. Evidence of clinical activity was observed at doses of 4 mg/kg and above, a dose range at which DM4 conjugates have been shown by others to demonstrate anti-tumor activity. 39 patients received ≥4 mg/kg of CX-2009 and had at least one post-baseline on-study tumor assessment at time of data cut-off. Of these, 15 (38%) patients had evidence of tumor shrinkage, including seven unconfirmed partial responses (four patients with breast cancer, two with ovarian cancer and one with head and neck cancer). 29 (74%) patients achieved stable disease or better at the time of the first on-treatment scan. The MTD was not reached at the highest dose level tested of 10 mg/kg. The most common TRAEs were grade 1 and 2 and included nausea (32%), fatigue (24%) and decreased appetite (23%). In the design of CX-2009, the CD-166 antibody is masked, but not the DM4 payload. Therefore, non-specific, DM4-mediated toxicities, such as ocular toxicity, were expected and were seen in this trial. Accordingly, the most common grade 3/4 TRAE was keratitis, occurring in 6 patients (8%), 5 of whom received doses equal to or greater than 8 mg/kg. The achievement of therapeutic doses of CX-2009 during this first dose escalation study of this agent in the absence of any evidence of acute, on-target, CD-166 toxicities, is consistent with the Probody platform hypothesis and with CX-2009 performing as it was designed. Enrollment in Q3W dose escalation is complete and we have determined that 7 mg/kg is our Recommended Phase 2 Dose (RP2D).

Part B - Phase 2 Cohort Expansion Trial

Based on the tolerability and activity data from Part A and A2, in December 2019, we announced that we were initiating a Phase 2 expansion study of CX-2009 monotherapy at 7 mg/kg administered every three weeks in up to 40 patients with hormone receptor (ER, PR) positive, HER2 negative breast cancer. This cohort expansion trial is open to enrollment.

Worldwide, breast cancer is the most commonly occurring cancer in women and the second most common cancer overall. In the U.S. in 2019, there will be an estimated 271,270 new cases of invasive breast cancer diagnosed in women and 2,670 cases diagnosed in men, of which 60% to 70% are hormone-positive/HER2-negative breast cancer. Newly diagnosed patients with invasive breast cancer are treated with anti-estrogen therapy, which can be single-agent hormone therapy or doublet-based hormonal therapy (including therapy based on CDK4/6 inhibition or mTOR inhibition). If their cancer progresses, patients may require cytotoxic chemotherapy. For patients that progress following the later stage therapies, there is a significant need for more efficacious treatment options.

Collaboration Product Candidates in the Clinic

We are actively developing additional Probody therapeutics in the clinic in collaboration with other companies.

BMS-986249, a CTLA-4 Probody Therapeutic in Collaboration with Bristol-Myers Squibb

Treatment with ipilimumab as a monotherapy or in combination with nivolumab (anti-PD-1 mAb) results in clinically meaningful anti-tumor activity in several malignancies; however, treatment is also associated with irAEs. Strategies to reduce the frequency and severity of anti-CTLA-4-associated irAEs while preserving anti-tumor activity could improve the benefit/risk of anti-CTLA-4 containing treatment regimens.

In collaboration with our partner, Bristol-Myers Squibb, we are conducting Probody versions of ipilimumab and unmasked nivolumab. Ipilimumab is a successful drug with global sales in excess of $1 billion. However, ipilimumab has a narrow therapeutic window and the FDA approval has a black box warning about potential severe and fatal immune-related adverse events. We believe that our CTLA-4 Probody therapeutic may be able to effectively localize the CTLA-4 antibody activity to the tumor microenvironment, thereby limiting systemic toxicities normally seen with Yervoy® and expanding the reach of this important anti-cancer mechanism. We believe that Bristol-Myers Squibb is the optimal strategic partner for our CTLA-4 Probody therapeutic given their expertise in cancer immunotherapy and their success with Yervoy®.

At various scientific congresses in 2017 and 2018, Bristol-Myers Squibb presented pre-clinical efficacy and safety data on BMS-986249. For example, at the 2018 Keystone Drugs as Antibodies Conference, Bristol-Myers Squibb scientists presented preclinical efficacy data that showed that BMS-986249 demonstrates comparable anti-tumor activity to ipilimumab in preclinical models. At the Society of Immunotherapy of Cancer ("SITC") meeting in 2017, Bristol-Myers Squibb scientists presented preclinical data that showed that non-human primates treated with BMS-986249 demonstrated reduced peripheral T-cell activation compared to ipilimumab, suggesting the Probody could have reduced systemic side effects. In addition, Bristol-Myers Squibb scientists presented data on the toxicity profile BMS-986249 and ipilimumab at the AACR-EORTC-NCI meeting in 2017. Bristol-Myers Squibb scientists concluded that the highest non-severely toxic dose ("HNSTD") of BMS-986249 was 50 mg/kg, while the HNSTD of ipilimumab was determined to be 10 mg/kg. The efficacy data, along with the peripheral T-cell activation data and the widened safety window suggests that BMS-986249 has the potential to widen the therapeutic window of ipilimumab.

Based on the preliminary results of the Phase 1 arm of the trial, Bristol-Myers Squibb has initiated a randomized cohort expansion in its ongoing Phase 1/2a trial of the anti-CTLA-4 Probody BMS-986249. The randomized Phase 2 cohort expansion is designed to further evaluate the safety and efficacy of BMS-986249 alone and in combination with OPDIVO® (nivolumab) in patients with metastatic melanoma, as part of the larger clinical trial. The advancement of BMS-986249 into this part of the planned study triggered a Phase 2 initiation milestone payment of $10.0 million from Bristol-Myers Squibb to CytomX.

In September 2019, Bristol-Myers Squibb also initiated the dose escalation phase of a Phase 1/2a clinical trial of a second anti-CTLA-4 Probody, BMS-986288, based on a modified version of ipilimumab, administered as monotherapy and in combination with nivolumab in patients with selected advanced solid tumors.

CX-2029, a CD71 Probody Drug Conjugate in Collaboration with AbbVie

We are collaborating with AbbVie on the development of CX-2029, a CD71 Probody Drug Conjugate ("CD71-PDC"). CD71, also known as transferrin receptor 1 ("TfR1"), is a protein that is essential for iron uptake in dividing cells, is highly expressed in a number of solid and hematologic cancers and has attractive molecular properties for efficient delivery of cytotoxic payloads to tumor cells, such as rapid and efficient internalization of ADCs and PDCs into the cancer cell. However, the combination of high expression in tumors and ubiquitous expression in normal tissues makes CD71 a difficult target for conventional ADCs, but potentially a good candidate for development of PDCs.

In preclinical efficacy models, we have shown that CX-2029 is efficacious in many cell line and patient-derived xenograft models that represent many different cancer types. As part of our pre-clinical assessment of CD71-PDCs, we assessed activity in 42 pre-clinical models. We observed tumor regression or stasis in 30 of 42 models (71%) and tumor growth inhibition in 10 of 42 models (24%), demonstrating a wide-ranging pre-clinical anti-tumor activity profile for CD71-PDCs. We have also compared the toxicity profile of a CD71 Antibody Drug Conjugate ("CD71-ADC") to a CD71-PDC in preclinical studies in non-human primates and have demonstrated lethality of the ADC, compared to the PDC, which was well tolerated. Taken together, we believe that CX-2029 has the potential to create a therapeutic window for the otherwise undruggable CD71 target. CX-2029 is currently being studied in a Phase 1/2 clinical trial (PROCLAIM-CX-2029) that is being conducted by CytomX.

Preclinical Product Candidates

We are actively pursuing the application of our Probody platform technology to multiple other product candidates. These include additional potential first-in-class PDC product candidates and T-Cell Engaging bispecific product candidates. Below are selected examples of product candidates that we are pursuing.

Probody T-Cell Engaging Bispecific Platform

We believe that our Probody platform can be applied to T-cell engaging bispecific antibodies ("TCBs"). TCBs are a highly potent therapeutic modality, designed to direct the activity of cytotoxic T-cells to tumors. TCBs such as Blincyto®, a CD19-directed TCB commercialized by Amgen, have shown clinical activity in hematologic malignancies, but development of TCBs for solid tumor indications is proving challenging. Due to their high potency, TCBs can target normal tissues with low antigen expression, resulting in significant on-target, off-tumor toxicity that can limit dosing to low levels. As a result, it has been difficult to reach the level of drug exposure required for efficacy without excessive toxicity. Therefore, novel methods are needed to enable the potent anti-tumor activity of TCBs while limiting toxicity due to cytokine release and damage to healthy tissues.

Our most advanced asset in this modality is a T cell-engaging Bispecific Probody therapeutic ("Pb-TCB") targeting EGFR and CD3. EGFR is a validated oncology target. Multiple marketed drugs target EGFR, among them the antibodies cetuximab (Erbitux®), panitumumab (Vectibix®) and necitumumab (Portrazza®). These and other approved EGFR-targeting drugs produce an anti-cancer effect by blocking EGFR-mediated growth signals in cancer cells. However, there is untapped potential in targeting EGFR, because while many tumors express EGFR, some do not respond to drugs that work by blocking EGFR signals. A TCB targeting EGFR and CD3 has the potential to address those patients, because blockade of EGFR-mediated growth signals is not required for a TCB to have a therapeutic effect. However, preclinical studies have demonstrated that because EGFR is expressed on many normal tissues, a conventional EGFR-directed TCB is very toxic. A Pb-TCB is designed to address the untapped potential of an EGFR-targeting TCB while reducing the associated toxicity.

In *in vitro* preclinical studies, we have demonstrated that the unmasked EGFR-CD3 TCB can exhibit potent dose-dependent tumor cell killing, while the masked EGFR-CD3 Pb-TCB reduced cytotoxicity by more than 100,000-fold. A TCB, which does not bind EGFR, does not kill tumor cells, demonstrating that the activity of the TCB is target dependent. However, in established tumor models, we have demonstrated that Pb-TCBs can induce tumor regressions and demonstrate significant anti-tumor activity. In nonhuman primates, the EGFR-CD3 Pb-TCB has a significantly higher maximum tolerated dose than the unmasked TCB. Cynomologus monkeys were able to tolerate a dose of 4,000 microgram/kg of the Pb-TCB, while the maximum tolerated dose of the unmasked TCB was 60 microgram/kg.

Taken together, we believe our Probody Platform has the potential to enable the development of T-cell engaging bispecific therapeutics against broadly expressed targets such as EGFR. Our EGFR-CD3 Pb-TCB program is partnered with Amgen and we anticipate advancing a lead candidate for this program during 2020.

EPCAM Probody Drug Conjugate Preclinical Development Program

At the end of 2019, as a result of a strategic restructuring by ImmunoGen, and its decision to out-license certain programs, we obtained a worldwide, exclusive, sublicensable license from ImmunoGen, to its epithelial cell adhesion molecule (EpCAM)-targeting PDC program. We paid ImmunoGen an upfront license payment and will pay certain clinical development, approval and commercialization milestone payments if achieved and royalties on product sales. This program was originally developed by ImmunoGen utilizing our Probody technology and ImmunoGen's next-generation linker chemistry and novel maytansinoid payload, DM-21, and arose from our collaboration with ImmunoGen as discussed below.

EpCAM is a target that is highly expressed on a wide variety of tumor types; however, it has been difficult to drug as it is also expressed widely on normal tissues. Pre-clinical data presented by ImmunoGen at the 2018 European Antibody Congress and the 2019 AACR Annual Meeting indicated that PDCs against EpCAM elicited potent tumor regression in multiple tumor models while

minimizing anticipated on-target toxicities outside the tumor microenvironment. We anticipate moving this program into IND-enabling studies during 2020.

Our Collaborations

We believe that the Probody platform has broad applicability across a number of targets and antibody formats. We have leveraged strategic partnering to (a) extend the reach of our therapeutic opportunity and (b) bring in significant non-dilutive capital into the Company. Since 2013, we have entered into collaborations with AbbVie, Amgen, Bristol-Myers Squibb and ImmunoGen, among others, to enable development of certain Probody therapeutics. In constructing each of these collaborations, our primary objectives were to collaborate with leading biopharmaceutical players to validate the potential of Probody therapeutics, to gain meaningful near-term funding and/or technology access to enable advancement of our wholly owned Probody therapeutics pipeline, broaden the number of Probody therapeutics that ultimately reach the clinic, and to retain significant milestones, royalties, and in some cases product rights, for long term upside.

AbbVie Ireland Unlimited Company

In April 2016, we entered into two agreements with AbbVie, a CD71 Co-Development and Licensing Agreement (the "CD71 Agreement") and the Discovery Agreement (the Discovery Agreement, together with the CD71 Agreement are collectively referred to as the "AbbVie Agreements"). Under the terms of the CD71 Agreement, we and AbbVie are co-developing CX-2029, a Probody Drug Conjugate ("PDC") against CD71, and we are responsible for pre-clinical and early clinical development. AbbVie will be responsible for later development and commercialization, with global late-stage development costs shared between the two companies. We will assume 35% of the net profits or net losses related to later development unless we opt-out. If we opt-out from participation of co-development of CX-2029, AbbVie will have sole right and responsibility for the further development, manufacturing and commercialization of CX-2029.

Under the CD71 Agreement, we received an upfront payment of $20.0 million in April 2016, and we are eligible to receive up to $470.0 million in development, regulatory and commercial milestone payments and royalties on ex-US sales in the high teens to low twenties if we participate in the co-development of CX-2029 subject to a reduction in such royalties if we opt-out from the co-development of the CD71 PDC. Our share of later stage co-development costs for CX-2029 is capped, provided that AbbVie may offset our co-development cost above the capped amounts from future payments such as milestone payments and royalties.

Under the terms of the Discovery Agreement, AbbVie received exclusive worldwide rights to develop and commercialize PDCs against up to two targets, one of which was selected in March 2017 and the second of which was selected in July 2019. We shall perform research services to discover the Probody therapeutics and create PDCs for the nominated collaboration targets. From that point, AbbVie shall have sole right and responsibility for development and commercialization of products comprising or containing such PDCs ("Discovery Licensed Products").

Under the Discovery Agreement, we received an upfront payment of $10.0 million in April 2016 and we received an additional upfront payment of $10.0 million in July 2019 upon the selection by AbbVie of the second target and the satisfaction of certain performance conditions under the CD71 Agreement. We are also eligible to receive up to $275.0 million in target nomination, development, regulatory and commercial milestone payments and royalties in the high single to low teens from commercial sales of any resulting PDCs.

Amgen, Inc.

In September 2017, we entered into a Collaboration and License Agreement (the "Amgen Agreement") with Amgen. Pursuant to the Amgen Agreement, we received an upfront payment of $40.0 million in October 2017. Concurrent with the entry into the Amgen Agreement, Amgen purchased 1,156,069 shares of our common stock for $20.0 million.

Under the terms of the Amgen Agreement, we and Amgen are co-developing a Probody T-cell engaging bi-specific therapeutic targeting EGFR ("EGFR Products"). We are responsible for early-stage development of EGFR Products and all related costs (up to certain pre-set costs and certain limits based on clinical study size). Amgen will be responsible for late-stage development, commercialization, and all related costs of EGFR Products. Following early-stage development, we will have the right to elect to participate financially in the global co-development of EGFR Products with Amgen, during which we would bear certain of the worldwide development costs for EGFR Products and Amgen would bear the rest of such costs (the "EGFR Co-Development Option"). If we exercise our EGFR Co-Development Option, we will share in somewhat less than 50% of the profit and losses from sales of such EGFR Products in the U.S., subject to certain caps, offsets, and deferrals. If we choose not to exercise our EGFR Co-Development Option, we will not bear any costs of later stage development. We are eligible to receive up to $455.0 million in development, regulatory, and commercial milestone payments for EGFR Products, and royalties in the low-double digit to mid-teen

percentage of worldwide commercial sales, provided that if we exercise our EGFR Co-Development option, we shall only receive royalties in the low-double digit to mid-teen percentage of commercial sales outside of the United States.

Amgen also has the right to select a total of up to three targets, including the two additional targets discussed below. We and Amgen will collaborate in the research and development of Probody T-cell engaging bi-specifics products directed against such targets. Amgen has selected one such target (the "Amgen Other Product"). If Amgen exercises its option within a specified period of time, it can select two such additional targets (the "Amgen Option Products" and, together with the Amgen Other Product, the "Amgen Products"). Except with respect to preclinical activities to be conducted by us, Amgen will be responsible, at its expense, for the development, manufacture, and commercialization of all Amgen Products. If Amgen exercises all of its options and advances all three of the Amgen Products, we are eligible to receive up to $950.0 million in upfront, development, regulatory, and commercial milestones and tiered high single-digit to low-teen percentage royalties.

We have the option to select, from programs specified in the Amgen Agreement, an existing pre-clinical stage T-cell engaging bispecific product from the Amgen pre-clinical pipeline. We will be responsible, at our expense, for converting this program to a Probody T-cell engaging bispecific product, and thereafter, be responsible for development, manufacturing, and commercialization of the product ("CytomX Product"). Amgen is eligible to receive up to $203.0 million in development, regulatory, and commercial milestone payments for the CytomX Product, and tiered mid-single digit to low double-digit percentage royalties.

Bristol-Myers Squibb Company

In May 2014, we and Bristol-Myers Squibb entered into a Collaboration and License Agreement (the "BMS Agreement") to discover and develop compounds for use in human therapeutics aimed at multiple immuno-oncology targets using our Probody therapeutic technology.

Under the terms of the BMS Agreement, we granted Bristol-Myers Squibb exclusive worldwide rights to develop and commercialize Probody therapeutics for up to four oncology targets, two of which were selected upon the execution of the BMS Agreement. Pursuant to the BMS Agreement, we received an upfront payment of $50.0 million and were initially entitled to receive contingent payments of up to an aggregate of $1,217.0 million in development, regulatory and commercial milestone payments, which can be reduced by any such payments received or by any termination of targets being pursued. We are entitled to royalty payments in the mid-single digit to low double digits percentage from potential future sales. We also receive research and development service fees. Bristol-Myers Squibb has terminated certain targets from the BMS Agreement, as described below.

In January 2016, Bristol-Myers Squibb selected the third target pursuant to the BMS Agreement and paid us $10.0 million. In December 2016, Bristol-Myers Squibb selected the fourth and its final target pursuant to the BMS Agreement and paid us $15.0 million. In December 2016, Bristol-Myers Squibb selected BMS-986249, a CTLA-4 Probody therapeutic, as a clinical candidate pursuant to the BMS Agreement, which triggered a $2.0 million pre-clinical milestone payment to us. In November 2017, Bristol-Myers Squibb received acceptance of the IND for BMS-986249 from the FDA, which triggered a $10.0 million milestone payment to us. Bristol-Myers Squibb recently advanced BMS-986249 into a randomized Phase 2 cohort expansion in patients with metastatic melanoma in combination with the PD-1 inhibitor nivolumab as part of the larger clinical trial, triggering, in February 2020, a $10.0 million milestone payment from Bristol-Myers Squibb to us.

In September 2019, Bristol-Myers Squibb initiated the dose escalation phase of a Phase 1/2a clinical trial of a second anti-CTLA-4 Probody, BMS-986288, based on a modified version of ipilimumab, administered as monotherapy and in combination with nivolumab in patients with selected advanced solid tumors.

In March 2017, we and Bristol-Myers Squibb entered into Amendment Number 1 to Extend Collaboration and License Agreement (the "Amendment"). The Amendment grants Bristol-Myers Squibb exclusive worldwide rights to develop and commercialize Probody therapeutics for up to six additional oncology targets and two non-oncology targets.

Under the terms of the Amendment, we will continue to collaborate with Bristol-Myers Squibb to discover and conduct preclinical development of Probody therapeutics against targets selected by Bristol-Myers Squibb.

Pursuant to the Amendment, we received an upfront payment of $200.0 million and we will be eligible to receive up to an aggregate of $3,586.0 million as follows: (i) up to $116.0 million in development milestone payments per target or up to $928.0 million if the maximum of eight targets are selected for the first product modality; (ii) up to $124.0 million in milestone payments for the first commercial sale in various territories for up to three indications per target program or up to $992.0 million if the maximum of eight targets are selected for the first product modality; (iii) up to $60.0 million in sales milestone payments per target or up to $480.0 million if maximum of eight targets are selected for the first product modality; and (iv) up to $56.3 million in development milestone payments or up to $450.0 million if the maximum of eight targets are selected for the second product modality; (v) up to $62.0 million in milestone payments for the first commercial sale in various territories for up to three indications per target program or up to $496.0 million if the maximum of eight targets are selected for the second product modality; (iii) up to $30.0 million in sales milestone payments per target or up to $240.0 million if maximum of eight targets are selected for the second product modality. We are also entitled to tiered mid-single to low double-digit percentage royalties from potential future sales.

In January 2019, Bristol-Myers Squibb provided us notification of termination of three of the targets in the BMS Agreement. The termination of these targets does not affect the Amendment, which remains in full force and effect.

ImmunoGen, Inc.

In January 2014, CytomX and ImmunoGen entered into the Research Collaboration Agreement (the "ImmunoGen Research Agreement"). The ImmunoGen Research Agreement provides us with the right to use ImmunoGen's ADC technology in combination with our Probody therapeutic technology to create a PDC directed at one specified target under a research license, and to subsequently obtain an exclusive, worldwide development and commercialization license to use ImmunoGen's ADC technology to develop and commercialize such PDCs. Under the agreement, we provided ImmunoGen with the rights to our Probody therapeutic technology to create PDCs directed at two targets under the research license and to subsequently obtain exclusive, worldwide development and commercialization licenses to develop and commercialize such PDCs. In February 2016, we exercised our option to obtain a development and commercialization license for CX-2009 pursuant to the terms of the ImmunoGen Research Agreement (the "CX-2009 License"). In February 2017, ImmunoGen exercised its option to obtain a development and commercialization license for the first of its two targets. ImmunoGen discontinued this program in July 2017 and substitution rights for this program terminated in February 2017. ImmunoGen exercised its second option to obtain a development and commercialization license pursuant to the ImmunoGen Research Agreement (the "ImmunoGen 2017 License") for a target, epithelial cell adhesion molecule (EPCAM), in December 2017. At the end of 2019, as a result of a strategic restructuring by ImmunoGen and its decision to out-license certain programs, we obtained a worldwide, exclusive, sublicensable license to the EPCAM PDC program from ImmunoGen (the "ImmunoGen 2019 License") and the ImmunoGen 2017 license ended.

Under the terms of the ImmunoGen Research Agreement, both we and ImmunoGen were required to perform research activities on behalf of the other party for no monetary consideration. Each party was solely responsible for the development, manufacturing and commercialization of any products resulting from the exclusive development and commercialization license obtained by such party under the agreement. In consideration for the CX-2009 License, ImmunoGen is entitled to receive up to $60.0 million in development and regulatory milestone payments, up to $100.0 million in sales milestone payments and royalties in the mid to high single digits percentage on the commercial sales of any resulting product. In August 2017, we made a milestone payment of $1.0 million to ImmunoGen for the first patient dosing with CX-2009 and in February 2020, we triggered a $3.0 million milestone payment to ImmunoGen for the first dosing of a patient in the CX-2009 Phase 2 clinical trial. Under the ImmunoGen 2019 License, we gained rights to the EPCAM PDC program and, in return, we made an upfront payment, and we will pay certain clinical development, approval and commercialization milestone payments if achieved and royalties on product sales.

Manufacturing

Our Probody therapeutic candidates are designed to be produced as fully recombinant antibody prodrugs. Our Probody therapeutic candidates are also designed to maintain the manufacturability benefits of antibodies and leverage well established technologies used

for antibody production. We conduct cell line development and process development both in-house and in collaboration with contract development and manufacturing organizations ("CMO"). CMOs are responsible for manufacturing of drug substance and clinical drug product materials.

Our preferred cell line has been successfully used for manufacturing several antibodies and requires minimal process optimization to establish a process to support early phase manufacturing. We utilize well established production steps typically part of a platform manufacturing process for antibodies. The CMO we have selected has a strong track record in manufacturing therapeutic biologics, including antibodies. Similarly, for our PDC projects we have selected CMOs with strong expertise in clinical/commercial drug conjugate manufacturing and with capabilities for toxin conjugation and fill-finish. Furthermore, our two lead PDC programs incorporate toxin payloads that have an established clinical and regulatory history.

To date, we have generally been able to successfully manufacture CX-072, CX-2009 and CX-2029 for our ongoing early stage clinical trials with contract manufacturers. Our partner, Bristol-Myers Squibb, has also been successful in independently manufacturing drug product for BMS-986249 and BMS-986288. However, in November 2019, we encountered a production failure at one of our CMOs that manufactures CX-072 for our Phase 2 clinical trial. We have contracted with alternative suppliers that we believe will be able to timely deliver clinical trial drug product for our ongoing trial. However, if the contract manufacturers are not able to manufacture satisfactory drug product in the second quarter of 2020, we may be required to temporarily suspend our ongoing trial for new and ongoing patients, which could affect our ability to conduct our trial on our originally planned timeline. Furthermore, in order to conduct later stage clinical trials of our product candidates, including CX-072, CX-2009 and CX-2029, and eventually, if approved, commercial products, we will need to manufacture them in larger quantities. We, or any manufacturing partners, may be unable to successfully increase the manufacturing scale and capacity for any of our product candidates in a timely or cost-effective manner, or at all. For example, we are currently working with our CMOs to change our manufacturing processes and formulations as well as scaling up for large drug manufacturing capability and to increase the term of stability for CX-072 drug product for late stage clinical trials and commercialization. However, we may have to start late stage trials with our early clinical trial drug product and switch to the late stage or commercial drug product mid trial. In such event, the FDA will require us to complete bridging studies to compare the earlier stage material with the late stage or commercial material to assure comparability between the earlier trial material and the late stage or commercial material. Changing the formulation and scale up process is a complicated and difficult task. While we believe we can complete the process successfully, there can be no assurances that the changes we make to the drug product and manufacturing process will be successful or completed in a timely manner or that the FDA will not require additional development steps or studies from those we believe are necessary. If we are unable scale up our manufacturing capabilities with respect to CX-072 or any of our other product candidates, increase the life of drug stability of CX-072 or such other product candidates, or successfully complete the FDA's bridging requirements, we may not be able to successfully obtain FDA approval and commercialize CX-072 or such other product candidates in a timely manner or at all.

The supply chain for the manufacturing of our product candidates is complicated and can involve many parties. We do not own manufacturing facilities for producing such supplies and rely on third-party contract manufacturers to manufacture our clinical trial and preclinical study product supplies. Our clinical trial manufacturing contractors and suppliers are our sole source for their respective manufacturing and supplies. Failure of any of these contractors could affect our ability to have clinical trial material available when needed. This could result in a substantial delay of our clinical trials. For example, for each of CX-072, CX-2009 and CX-2029, our manufacturing supply chain includes several contract manufacturers, and failure by any of these manufacturers could result in interruptions of our clinical studies. We do not have any long-term contracts and we do not currently have an alternative to any of our third-party contract manufacturers. Consequently, there can be no assurance that our preclinical and clinical development product supplies will not be limited, interrupted, or of satisfactory quality or continue to be available at acceptable prices. In particular, any replacement of any of our third-party contract manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements. In addition, we may encounter issues with transferring technology to a new third-party manufacturer, and we may encounter regulatory delays if we need to move the manufacturing of our products from one third-party manufacturer to another. For example, we were dependent on ImmunoGen under our collaboration for certain steps in the manufacturing of clinical quantities of CX-2009. At the end of 2018, ImmunoGen closed their clinical manufacturing facility in Norwood, Massachusetts provided clinical manufacturing support for the CX-2009 program. We recently completed the transfer of the drug substance manufacturing process from ImmunoGen to a contract manufacturer, where we have an existing relationship and with expertise in the manufacture of antibody drug conjugates at a clinical and commercial scale. While the manufacturing transfer process has been completed, there can be no assurance that we will not experience a disruption in the supply of CX-2009 as a result of such transfer or that we will not experience any other disruption in the manufacturing of CX-2009.

In-Licenses

License from UCSB

In August 2010, we entered into an agreement with UCSB, that grants us an exclusive license, with the right to sublicense, under the patent rights owned by UCSB covering mask and screening technologies relating to the identification and discovery of pro-protein biologics, including masks and substrates, for the identification of pro-proteins, for use in the fields of therapeutics, in vivo diagnostics, and prophylactics (the "UCSB Agreement"). The UCSB Agreement also grants us an exclusive license, with the right to sublicense, under UCSB's interest in certain patent rights we co-own with UCSB covering Probody antibodies and other pro-proteins in the fields of therapeutics, in vivo diagnostics and prophylactics.

We had no upfront payment obligations under the agreement. In April 2019, we amended the UCSB Agreement and in connection with the amendment, we paid UCSB $1.0 million and issued 150,000 shares of our common stock to UCSB. We are obligated to pay to UCSB royalties on net sales of licensed products in the low single digit percentages, subject to annual minimum amounts as well as certain reductions. We are required to make milestone payments to UCSB on the accomplishment of certain milestones totaling up to $1,075 million for each of the first two indications for each licensed product consisting of a molecule or compound covered by the licensed patent rights. We were also obligated to make a payment to UCSB upon the first occurrence of an IPO or change of control. If the Company sublicenses its rights under the UCSB Agreement, it must pay UCSB a percentage of our total sublicense revenues ranging from the mid-single to mid-teen percentages, which total amount would be first reduced by the aggregate amount of certain research and development related expenses incurred by the Company and other permitted deductions.

Licenses from ImmunoGen

In February 2016, we exercised our option to obtain a worldwide, exclusive, sublicensable license from ImmunoGen for development and commercialization of products directed against the target selected by us under our research collaboration agreement with ImmunoGen. Additionally, in December 2019, we obtained a worldwide, exclusive, sublicensable license to ImmunoGen's EPCAM PDC program. See the description of the license agreements set forth under the caption "Our Collaborations—ImmunoGen, Inc." in this Item 1 of this Annual Report on Form 10-K.

Competition

CytomX is pioneering a new class of antibody therapeutics – the Probody therapeutic platform. The biotechnology and biopharmaceutical industries, and the immuno-oncology subsector, are characterized by rapid evolution of technologies, fierce competition and strong defense of intellectual property. Any product candidates that we successfully develop and commercialize will have to compete with existing therapies and new therapies that may become available in the future. While we believe that our proprietary Probody platform and scientific expertise in the field of biologics and immuno-oncology provide us with competitive advantages, a wide variety of institutions, including large biopharmaceutical companies, specialty biotechnology companies, academic research departments and public and private research institutions, are actively developing potentially competitive products and technologies. We face substantial competition from biotechnology and biopharmaceutical companies developing biopharmaceutical products, particularly with respect to in immuno-oncology therapeutics, where competition is intense and rapidly evolving. These competitors generally fall within the following categories:

Masking and conditional activation: Several companies, including AbbVie, Adagene, Akriveia, Amgen, Amunix, BioAtla, Halozyme, Harpoon, Maverick Therapeutics, Pandion Therapeutics, Revitope, Roche, Seattle Genetics, and Werewolf are exploring antibody masking and/or conditional activation strategies, which could compete with our Probody Platform.

Cancer immunotherapies: Cancer immunotherapy is one of the most competitive and fastest growing segments of the pharmaceutical industry. Almost every large pharmaceutical company is developing cancer immunotherapies, including Amgen, AstraZeneca PLC, Bristol-Myers Squibb, Celgene, GlaxoSmithKline plc, Merck & Co., Inc., Novartis AG, Pfizer, Roche Holding Ltd and Sanofi SA. In addition, many large and mid-sized biotech companies such as BeiGene Incyte, TESARO, Inc., Nektar, and Alkermes have ongoing efforts in cancer immunotherapy. In addition, numerous smaller companies are also working in the space.

Antibody drug conjugates: Several large pharmaceutical companies, such as AbbVie, Daiichi Sankyo, Pfizer, Roche, and Takeda are developing ADCs. Three mid-sized companies, ImmunoGen, Seattle Genetics, and Immunomedics are also leaders in this space. In addition, numerous smaller companies have ongoing efforts in the space.

T-cell engaging bispecifics: Several large pharmaceutics companies, such as Amgen, Novartis, and Roche, have on-going efforts in the space of TCBs. In additional, several mid-sized biotech companies such as Macrogenics and Xencor have ongoing efforts in TCBs. In addition, numerous smaller companies have ongoing efforts in the space.

Many of our competitors, either alone or with strategic partners, have substantially greater financial, technical and human resources than we do. Accordingly, our competitors may be more successful than us in obtaining approval for treatments and achieving widespread market acceptance, rendering our treatments obsolete or non-competitive. Accelerated merger and acquisition activity in

the biotechnology and biopharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. These companies also compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical study sites and patient registration for clinical studies and acquiring technologies complementary to, or necessary for, our programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Our commercial opportunity could be substantially limited in the event that our competitors develop and commercialize products that are more effective, safer, less toxic, more convenient or less expensive than our comparable products. In geographies that are critical to our commercial success, competitors may also obtain regulatory approvals before us, resulting in our competitors building a strong market position in advance of our products' entry. We believe the factors determining the success of our programs will be the efficacy, safety and convenience of our product candidates.

Intellectual Property

We strive to protect and enhance the proprietary technology, inventions, and improvements that are commercially important to our business, including seeking, maintaining, and defending patent rights, whether developed internally or licensed from third parties. Our policy is to seek to protect our proprietary position by, among other methods, pursuing and obtaining patent protection in the United States and in jurisdictions outside of the United States related to our proprietary technology, inventions, improvements, platforms and product candidates that are important to the development and implementation of our business. Our patent portfolio is intended to cover, but is not limited to, our technology platforms, our product candidates and components thereof, their methods of use and processes for their manufacture, our proprietary reagents and assays, and any other inventions that are commercially important to our business. We also rely on trade secret protection of our confidential information and know-how relating to our proprietary technology, platforms and product candidates, continuing innovation, and in-licensing opportunities to develop, strengthen, and maintain our proprietary position in our Probody platform and product candidates. We expect to rely on data exclusivity, market exclusivity, patent term adjustment and patent term extensions when available. Our commercial success may depend in part on our ability to obtain and maintain patent and other proprietary protection for our technology, inventions, and improvements; to preserve the confidentiality of our trade secrets; to maintain our licenses to use intellectual property owned or controlled by third parties; to defend and enforce our proprietary rights, including our patents; to defend against and challenge the assertion by third parties of their purported intellectual property rights; and to operate without the unauthorized infringement of valid and enforceable patents and other proprietary rights of third parties.

We believe that we have a strong global intellectual property position and substantial know-how and trade secrets relating to our Probody therapeutic technology, platform and product candidates. Our patent portfolio as of February 20, 2020 contains at least 135 issued patents (some of which are co-owned with a third party) and 325 pending patent applications (some of which are co-owned with a third party). We have exclusively licensed UCSB's interest in the co-owned patent family covering Probody and other pro-protein technology in the fields of therapeutics, *in vivo* diagnostics and prophylactics.

These patents and patent applications include claims directed to:

- Probody platform and PDC platform;
- Other pro-protein platforms;
- Probody conjugates and conjugation methods to produce PDCs;
- Bispecific and other multispecific Probody therapeutics, including T-cell-recruiting bispecific Probody therapeutics;
- Protease-cleavable linkers, e.g., serine protease- and/or MMP-cleavable linkers;
- Improved display systems for peptide display, e.g., to identify masks, substrates, and other proteins;
- Cancer immunotherapy Probody therapeutics, e.g., PD-L1, PD-1, and CTLA-4 Probody therapeutics, as well as related novel antibodies and combination therapies;
- Probody drug conjugates, e.g., CD-166, CD71 (transferrin receptor), CD49c (integrin alpha 3), and CD147 PDCs, as well as related Probody therapeutics, novel antibodies and ADCs;
- Probody therapeutics to other targets, e.g., EGFR, Jagged, and IL6R Probody therapeutics, as well as related PDCs, novel antibodies and ADCs;
- Antibodies that bind Probody therapeutics, e.g., anti-mask and anti-Probody antibodies;
- Antibodies that bind key targets;
- Antibodies that bind the active site of uPA protease;
- Compositions and methods to discriminate between intact Probody therapeutics and activated versions thereof, as well as other translation assays;

- Methods to produce intact Probody therapeutics; and
- Methods to use any of the above-referenced compounds and compositions.

In addition, we have exclusively licensed a patent portfolio of patent families from UCSB patents and patent applications that cover compositions and methods related to screening for and identification of masks and protease-cleavable linkers that we incorporate into our Probody therapeutics.

As for the Probody platform, product candidates and processes we develop and commercialize, in the normal course of business, we intend to pursue, where appropriate, patent protection or trade secret protection relating to compositions, methods of manufacture, assay methods, methods of use, treatment of indications, dosing and formulations. We may also pursue patent protection with respect to product development processes and technology.

We continually assess and refine our intellectual property strategy as we develop new platform technologies and product candidates. To that end, we are prepared to file additional patent applications if our intellectual property strategy requires such filings, or where we seek to adapt to competition or seize business opportunities. Further, we are prepared to file patent applications, as we consider appropriate under the circumstances, relating to the new technologies that we develop. In addition to filing and prosecuting patent applications in the United States, we often file counterpart patent applications in the European Union and in additional countries where we believe such foreign filing is likely to be beneficial, including but not limited to any or all of Australia, Brazil, Canada, China, Europe, Hong Kong, India, Indonesia, Israel, Japan, Malaysia, Mexico, New Zealand, Russia or Eurasian Patent Organization, Singapore, South Africa and South Korea.

Our currently issued patents will likely expire on dates ranging from 2028 to 2035, unless we receive patent term extension or adjustment as might be available under applicable law. If patents are issued on our pending patent applications, the resulting patents are projected to expire on dates ranging from 2028 to 2040, unless we receive patent term extension or adjustment. However, the actual protection afforded by a patent varies on a product-by-product basis, from country-to-country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country, and the validity and enforceability of the patent.

All of our patents and patent applications are subject to risks and uncertainties under U.S. and foreign law. We also rely on trademark registration to protect our trademarks. For a more comprehensive discussion of risks related to our proprietary technology, inventions, improvements, platforms and product candidates, please see the section entitled “Risk Factors—Risks Related to Intellectual Property.”

We also rely on trade secret protection for our confidential and proprietary information. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. In the case of employees, the agreements provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property. In many cases our confidentiality and other agreements with consultants, outside scientific collaborators, sponsored researchers and other advisors require them to assign or grant us licenses to inventions they invent as a result of the work or services they render under such agreements or grant us an option to negotiate a license to use such inventions.

Government Regulation and Product Approval

Governmental authorities in the U.S., at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, labeling, packaging, promotion, storage, advertising, distribution, marketing and export and import of products such as those we are developing. Our product candidates are subject to regulation in the U.S. as biologics, which must be approved by the FDA through the BLA process before they may be legally marketed in the U.S. and will be subject to similar requirements in other countries prior to marketing in those countries. The process of obtaining regulatory approvals and the subsequent compliance with applicable federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

U.S. Government Regulation

In the U.S., the FDA regulates biologics under the Federal Food, Drug, and Cosmetic Act ("FDCA") and the Public Health Service Act ("PHSA"), and their respective implementing regulations. Failure to comply with the applicable U.S. requirements at any time during the product development or approval process, or after approval, may subject an applicant to administrative or judicial sanctions, any of which could have a material adverse effect on us. These sanctions could include:

- refusal to approve pending applications;
- withdrawal of an approval;
- imposition of a clinical hold;
- warning or untitled letters;
- seizures or administrative detention of product;
- total or partial suspension of production or distribution; or
- injunctions, fines, disgorgement, or civil or criminal penalties.

BLA Approval Process

The process required by the FDA before a biologic may be marketed in the U.S. generally involves the following:

- completion of nonclinical laboratory tests, animal studies and formulation studies conducted according to good laboratory practices ("GLPs"), and other applicable regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials according to good clinical practices ("GCPs"), to establish the safety, purity and potency of the product candidate for its intended use;
- submission to the FDA of a BLA;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the product candidate is produced to assess compliance with current good manufacturing practices ("cGMPs") to assure that the facilities, methods and controls are adequate to preserve the product candidate's continued safety, purity and potency, and of selected clinical investigation sites to assess compliance with GCPs; and
- FDA review and approval of the BLA to permit commercial marketing of the product for its particular labeled uses in the United States.

Preclinical and Clinical Studies

Once a biologic product candidate is identified for development, it enters the preclinical or nonclinical testing stage. Nonclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. An IND sponsor must submit the results of the nonclinical tests, together with manufacturing information and analytical data, to the FDA as part of the IND. Some nonclinical testing may continue even after the IND is submitted. In addition to including the results of the nonclinical studies, the IND will also include a protocol detailing, among other things, the objectives of the clinical trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated if the first phase lends itself to an efficacy determination. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, places the IND on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin. A clinical hold may occur at any time during the life of an IND and may affect one or more specific studies or all studies conducted under the IND.

All clinical trials must be conducted under the supervision of one or more qualified investigators in accordance with GCPs. They must be conducted under protocols detailing the objectives of the trial, dosing procedures, research subject selection and exclusion criteria and the safety and effectiveness criteria to be evaluated. Each protocol, and any subsequent material amendment to the protocol, must be submitted to the FDA as part of the IND, and progress reports detailing the status of the clinical trials must be submitted to the FDA annually. Sponsors also must report to the FDA serious and unexpected adverse reactions in a timely manner, any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigation brochure or any findings from other studies or animal or *in vitro* testing that suggest a significant risk in humans exposed to the product candidate. An institutional review board ("IRB") at each institution participating in the clinical trial must review and approve the protocol before a clinical trial commences at that institution and must also approve the information regarding the trial and the consent form that must be provided to each research subject or the subject's legal representative, monitor the study until completed and otherwise comply with IRB regulations. There are also requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined.

- Phase 1—The product candidate is initially introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and elimination. In the case of some therapeutic candidates for severe or life-threatening diseases, such as cancer, especially when the product candidate may be inherently too toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2—Clinical trials are performed on a limited patient population intended to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- Phase 3—Clinical trials are undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical study sites. These studies are intended to establish the overall risk-benefit ratio of the product and provide an adequate basis for product approval.

A pivotal study is a clinical study that adequately meets regulatory agency requirements for the evaluation of a product candidate's efficacy and safety such that it can be used to justify the approval of the product. Generally, pivotal studies are also Phase 3 studies but may be Phase 2 studies if the trial design provides a reliable assessment of clinical benefit, particularly in situations where there is an unmet medical need. Human clinical trials are inherently uncertain, and Phase 1, Phase 2 and Phase 3 testing may not be successfully completed. The FDA or the sponsor may suspend a clinical trial at any time for a variety of reasons, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

During the development of a new biologic product candidate, sponsors are given opportunities to meet with the FDA at certain points; specifically, prior to the submission of an IND, at the end of Phase 2 and before a BLA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date and for the FDA to provide advice on the next phase of development. Sponsors typically use the meeting at the end of Phase 2 to discuss their Phase 2 clinical results and present their plans for the pivotal Phase 3 clinical trial that they believe will support the approval of the new therapeutic. If a Phase 3 clinical trial is the subject of discussion at the end of Phase 2 meeting with the FDA, a sponsor may be able to request a Special Protocol Assessment ("SPA"), the purpose of which is to reach agreement with the FDA on the Phase 3 clinical trial protocol design and analysis that will form the primary basis of an efficacy claim. If a written agreement is reached, it will be binding on the FDA and may not be changed by the sponsor or the FDA after the trial begins except with the written agreement of the sponsor and the FDA or if the FDA determines that a substantial scientific issue essential to determining the safety or efficacy of the product candidate was identified after the testing began.

Post-approval trials, sometimes referred to as "Phase 4" clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, FDA may mandate the performance of such "Phase 4" clinical trials as a condition of approval for a BLA.

Concurrent with clinical trials, sponsors usually complete additional animal safety studies, develop additional information about the chemistry and physical characteristics of the product candidate and finalize a process for manufacturing commercial quantities of the product candidate in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and the manufacturer must develop methods for testing the safety, purity and potency of the product candidate. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the biologic product candidate does not undergo unacceptable deterioration over its shelf life.

Submission of a BLA to the FDA

The results of product development, nonclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests and other control mechanisms, proposed labeling and other relevant information are submitted to the FDA as part of a BLA requesting approval to market the product for one or more indications.

Under the Prescription Drug User Fee Act ("PDUFA") as amended, each BLA must be accompanied by a significant user fee. The FDA adjusts the PDUFA user fees on an annual basis. PDUFA also imposes an annual program fee for marketed products. Fee waivers or reductions are available in certain circumstances, such as where a waiver is necessary to protect the public health, where the fee would present a significant barrier to innovation, or where the applicant is a small business submitting its first human therapeutic application for review.

Within 60 days following submission of the application, the FDA reviews a BLA to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews a BLA to determine, among other things, whether the proposed product is safe, pure and potent for its intended use, and whether the facility in which it is being manufactured, processed, packaged, or held meets standards designed to assure the product's continued safety, purity and potency in accordance with cGMP. The FDA may refer applications for novel products or products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with GCP requirements. To assure cGMP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production and quality control.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval of the application. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that describes all of the specific deficiencies in the BLA identified by the FDA. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical trials. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

Even if a product receives regulatory approval, the approval may be significantly limited to specific indications and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling.

As a condition of BLA approval, the FDA may require a Risk Evaluation and Mitigation Strategy ("REMS") to ensure that the benefits of the drug outweigh its risks. If the FDA determines a REMS is necessary prior to or during review of the application, the sponsor must submit a REMS as part of its application, and the FDA will not approve a BLA without a REMS, if required. A REMS program may be required to include various elements, such as a medication guide or patient package insert, a communication plan to educate healthcare providers of the product's risks, or other elements to assure safe use, such as limitations on who may prescribe or dispense the drug, dispensing only under certain circumstances, special monitoring and the use of patient registries. In addition, all REMS programs must include a timetable to periodically assess the strategy following implementation.

Further, product approval may require substantial post-approval testing and surveillance to monitor the product's safety and efficacy, and the FDA has the authority to prevent or limit further marketing of a product based on the results of these post-marketing programs. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing. Moreover, changes to the conditions established in an approved application, including changes in indications, labeling or manufacturing processes or facilities may require submission and FDA approval of a new supplement before the changes can be implemented. A supplement for a new indication typically requires clinical data similar to that supporting the original approval, and the FDA uses similar procedures in reviewing supplements as it does in reviewing original applications.

Companion Diagnostics

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

If use of companion diagnostic is essential to safe and effective use of a biologic product, then the FDA generally will require approval or clearance of the diagnostic contemporaneously with the approval of the biologic product. According to FDA guidance, for novel product candidates such as drugs and therapeutic biologics, a companion diagnostic device and its corresponding product candidate should be approved or cleared contemporaneously by FDA for the use indicated in the product labeling. The guidance also explains that a companion diagnostic device used to make treatment decisions in clinical trials of a product candidate generally will be considered an investigational device, unless it is employed for an intended use for which the device is already approved or cleared. If used to make critical treatment decisions, such as patient selection, the diagnostic device generally will be considered a significant risk device under the FDA's Investigational Device Exemption ("IDE") regulations. Thus, the sponsor of the diagnostic device will be required to comply with the IDE regulations. According to the guidance, if a diagnostic device and a drug or biologic product candidate are to be studied together to support their respective approvals, both products can be studied in the same investigational study, if the study meets both the requirements of the IDE regulations and the IND regulations. The guidance provides that depending on the details of the study plan and subjects, a sponsor may seek to submit an IND alone, or both an IND and an IDE.

The FDA generally requires companion diagnostics intended to select the patients who will respond to cancer treatment to obtain approval of a PMA for that diagnostic contemporaneously with approval of the therapeutic product. The PMA process, including the gathering of clinical and pre-clinical data and the submission to and review by the FDA, can take several years or longer. It involves a rigorous premarket review during which the applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing and labeling. PMA applications are also subject to an application fee. In addition, PMAs for certain devices must generally include the results from extensive pre-clinical and adequate and well-controlled clinical trials to establish the safety and effectiveness of the device for each indication for which FDA approval is sought. In particular, for a diagnostic, the applicant must demonstrate that the diagnostic produces reproducible results when the same sample is tested multiple times by multiple users at multiple laboratories. In addition, as part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with the Quality System Regulation ("QSR") which imposes elaborate testing, control, documentation and other quality assurance requirements.

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

Expedited Development and Review Programs

The FDA offers a number of expedited development and review programs for qualifying product candidates.

A product candidate may be eligible for fast track designation if it is intended to treat a serious or life-threatening disease or condition and demonstrates the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a fast track product has opportunities for frequent interactions with the review team during product development and, once a BLA is submitted, the product may be eligible for priority review. A fast track product may also be eligible for rolling review, where the FDA may consider for

review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

A product intended to treat a serious or life-threatening disease or condition may also be eligible for breakthrough therapy designation to expedite its development and review. A product can receive breakthrough therapy designation if preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.

After a BLA is submitted for a product, including a product with a fast track designation and/or breakthrough therapy designation, the BLA may be eligible for other types of FDA programs intended to expedite the FDA review and approval process, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide a significant improvement in the treatment, diagnosis or prevention of a serious disease or condition compared to marketed products. Priority review designation means the FDA's goal is to take action on the marketing application within six months of the 60-day filing date, compared to ten months under standard review.

Additionally, products studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of FDA approval of the use of our therapeutic candidates, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Act. The Hatch-Waxman Act permits a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product candidate's approval date. The patent term restoration period is generally one half of the time between the effective date of an IND and the submission date of a BLA, plus the time between the submission date of a BLA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved product candidate is eligible for the extension and the application for extension must be made prior to expiration of the patent. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we intend to apply for restorations of patent term for some of our currently owned or licensed patents to add patent life beyond their current expiration date, depending on the expected length of clinical trials and other factors involved in the submission of the relevant BLA.

Biosimilars and Exclusivity

The Affordable Care Act, signed into law in 2010, includes the Biologics Price Competition and Innovation Act ("BPCIA"), which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. The FDA has issued several guidance documents outlining an approach to review and approval of biosimilars. Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. However, complexities associated with the larger, and often more complex, structures of biological products, as well as the processes by which such products are manufactured, pose significant hurdles to implementation of the abbreviated approval pathway that are still being worked out by the FDA.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed "interchangeable" by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

A biological product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

The BPCIA is complex and continues to be interpreted and implemented by the FDA. In addition, government proposals have sought to reduce the 12-year reference product exclusivity period. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and impact of the BPCIA is subject to significant uncertainty. *Orphan Drug Designation*

Under the Orphan Drug Act, the FDA may grant Orphan Drug Designation to therapeutic candidates intended to treat a rare disease or condition, which is generally a disease or condition that affects either (1) fewer than 200,000 individuals in the U.S., or (2) more than 200,000 individuals in the U.S. and for which there is no reasonable expectation that the cost of developing and making available in the U.S. a product candidate for this type of disease or condition will be recovered from sales in the U.S. for that product candidate. Orphan Drug Designation must be requested before submitting a BLA. After the FDA grants Orphan Drug Designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan Drug Designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product candidate that has Orphan Drug Designation subsequently receives the first FDA approval for the disease for which it has such designation, the product candidate is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same product candidate for the same indication, except under limited circumstances, for seven years. Orphan drug exclusivity, however, could also block the approval of one of our therapeutic candidates for seven years if a competitor obtains approval of the same product candidate as defined by the FDA or if our product candidate is determined to be contained within the competitor's product candidate for the same indication or disease.

In addition, the orphan drug credit is available for qualifying costs incurred between the date the FDA designates a drug as an orphan drug and the date the FDA approves the drug. Tax reform legislation, enacted in December 2017, reduced the amount of the qualified clinical research costs for a designated orphan product that a sponsor may claim as a credit from 50% to 25%.

Pediatric Exclusivity and Pediatric Use

Under the Best Pharmaceuticals for Children Act (the "BPCA"), certain therapeutic candidates may obtain an additional six months of exclusivity if the sponsor submits information requested in writing by the FDA, referred to as a Written Request, relating to the use of the active moiety of the product candidate in children. Although the FDA may issue a Written Request for studies on either approved or unapproved indications, it may only do so where it determines that information relating to that use of a product candidate in a pediatric population, or part of the pediatric population, may produce health benefits in that population.

In addition, the Pediatric Research Equity Act ("PREA"), requires a sponsor to conduct pediatric studies for most therapeutic candidates and biologics, for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration. Under PREA, original BLAs and supplements thereto must contain a pediatric assessment unless the sponsor has received a deferral or waiver. The required assessment must assess the safety and effectiveness of the product candidate for the claimed indications in all relevant pediatric subpopulations and support dosing and administration for each pediatric subpopulation for which the product candidate is safe and effective. The sponsor or FDA may request a deferral of pediatric studies for some or all of the pediatric subpopulations. A deferral may be granted for several reasons, including a finding that the product candidate or biologic is ready for approval for use in adults before pediatric studies are complete or that additional safety or effectiveness data needs to be collected before the pediatric studies begin. The law requires the FDA to send a PREA Non-Compliance letter to sponsors who have failed to submit their pediatric assessments required under PREA, have failed to seek or obtain a deferral or deferral extension or have failed to request approval for a required pediatric formulation. It further requires the FDA to post the PREA Non- Compliance letter and sponsor's response.

Post-Approval Requirements

Once a BLA approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements is not maintained or if problems occur after the biologic product reaches the market. Later discovery of previously unknown problems with a product candidate may result in restrictions on the product candidate or even complete withdrawal of the product candidate from the market. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further FDA review and approval. In addition, the FDA may under some circumstances require testing and surveillance programs to monitor the effect of approved product that have been commercialized, and the FDA under some circumstances has the power to prevent or limit further marketing of a product candidate based on the results of these post-marketing programs.

Any biologic products manufactured or distributed by us pursuant to FDA approvals are subject to continuing regulation by the FDA, including, among other things:

- record-keeping requirements;
- reporting of adverse experiences with the product candidate;
- providing the FDA with updated safety and efficacy information;
- product sampling and distribution requirements;
- notifying the FDA and gaining its approval of specified manufacturing or labeling changes; and
- complying with FDA promotion and advertising requirements, which include, among other things, standards for direct-to-consumer advertising, restrictions on promoting products for uses or in-patient populations that are not described in the product's approved labeling, limitations on industry-sponsored scientific and educational activities and requirements for promotional activities involving the internet.

Biologic manufacturers and other entities involved in the manufacture and distribution of approved therapeutic products are required to register their establishments with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA and some state agencies for compliance with cGMPs and other laws. 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 FDA approval before being implemented. FDA regulations would 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 if our product candidates are approved. 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.

New Legislation and Regulations

From time to time, legislation is drafted, introduced and passed in Congress that could significantly change the statutory provisions governing the testing, approval, manufacturing and marketing of products regulated by the FDA. In addition to new legislation, FDA regulations and policies are often revised or interpreted by the agency in ways that may significantly affect our business and our products. It is impossible to predict whether further legislative changes will be enacted or whether FDA regulations, guidance, policies or interpretations changed or what the effect of such changes, if any, may be.

Regulation Outside of the U.S.

In addition to regulations in the U.S., we will be subject to regulations of other jurisdictions governing any clinical trials and commercial sales and distribution of our therapeutic candidates. Whether or not we obtain FDA approval for a product, we must obtain approval by the comparable regulatory authorities of countries outside of the U.S. before we can commence clinical trials in such countries and approval of the regulators of such countries or economic areas, such as the European Union, before we may market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Under European Union regulatory systems, a company can consider applying for marketing authorization in several European Union member states by submitting its marketing authorization application(s) under a centralized, decentralized or mutual recognition procedure. The centralized procedure provides for the grant of a single marketing authorization that is valid for all European Union member states. The centralized procedure is compulsory for medicines derived from biotechnology, orphan medicinal products, or those medicines with an active substance not authorized in the European Union on or before May 20, 2004 intended to treat acquired immune deficiency syndrome ("AIDS"), cancer, neurodegenerative disorders or diabetes and optional for those medicines containing

a new active substance not authorized in the European Union on or before May 20, 2004, medicines which are highly innovative, or medicines to which the granting of a marketing authorization under the centralized procedure would be in the interest of patients at the European Union-level. The decentralized procedure provides for recognition by European Union national authorities of a first assessment performed by one of the member states. Under this procedure, an identical application for marketing authorization is submitted simultaneously to the national authorities of several European Union member states, one of them being chosen as the "Reference Member State", and the remaining being the "Concerned Member States". The Reference Member State must prepare and send drafts of an assessment report, summary of product characteristics and the labelling and package leaflet within 120 days after receipt of a valid marketing authorization application to the Concerned Member States, which must decide within 90 days whether to recognize approval. If any Concerned Member State does not recognize the marketing authorization on the grounds of potential serious risk to public health, the disputed points are eventually referred to the European Commission, whose decision is binding on all member states. The mutual recognition procedure is similar to the decentralized procedure except that a medicine must have already received a marketing authorization in at least one of the member states, and that member state acts as the Reference Member State.

As in the U.S., we may apply for designation of a product candidate as an orphan drug for the treatment of a specific indication in the European Union before the application for marketing authorization is made.

Orphan drugs in the European Union enjoy economic and marketing benefits, including up to ten years of market exclusivity for the approved indication unless another applicant can show that its product is safer, more effective or otherwise clinically superior to the orphan-designated product, the marketing authorization holder is unable to supply sufficient quantity of the medicinal product or the marketing authorization holder has given its consent.

Coverage and Reimbursement

Sales of our products will depend, in part, on the extent to which our products will be covered by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly reducing reimbursements for medical products and services. Additionally, the containment of healthcare costs has become a priority of federal and state governments and the prices of therapeutics have been a focus in this effort. The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. If these third- party payors do not consider our products to be cost-effective compared to other therapies, they may not cover our products after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (together, the "ACA") has had a significant impact on the health care industry. The ACA expanded coverage for the uninsured while at the same time containing overall healthcare costs. With regard to biopharmaceutical products, the ACA, among other things, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations, established annual fees and taxes on manufacturers of certain branded prescription drugs, and a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts, which, through subsequent legislative amendments, will be increased to 70% starting in 2019, off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D. Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, as well as efforts by the current presidential administration to modify, repeal, or otherwise invalidate all, or certain provisions of, the ACA. By way of example, the Tax Cuts and Jobs Act was enacted, which, among other things, removes penalties for not complying with the ACA's individual mandate to carry health insurance. It is unclear how these challenges, subsequent appeals, and other efforts to challenge, repeal, or replace the ACA will impact the ACA.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted that impact payment methodologies and reimbursement amounts. On August 2, 2011, the Budget Control Act of 2011 among other things, created measures for spending reductions by Congress, which led to aggregate reductions to Medicare payments to providers of 2% per fiscal year starting in April 2013, and, due to subsequent legislative amendments, will stay in effect through 2027 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012 (the "ATRA") which among other things, also reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Recently, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, the 21st Century Cures Act changed the reimbursement methodology for infusion drugs and biologics furnished through durable medical equipment in an attempt to remedy over- and underpayment of certain products. Individual states in the United States have also become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We cannot predict the extent of the impact of any changes to any of these laws on us.

Finally, in some foreign countries, the proposed pricing for a product candidate must be approved before it may be lawfully marketed. The requirements governing therapeutic pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product, or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our product candidates. Historically, therapeutic candidates launched in the European Union do not follow price structures of the U.S. and generally tend to be significantly lower.

Other Healthcare Laws

We may also be subject to healthcare regulation and enforcement by the federal government and the states and foreign governments where we may market our product candidates, if approved. These laws include, without limitation, state and federal anti-kickback, fraud and abuse, false claims, privacy and security, physician sunshine and drug pricing transparency laws and regulations.

The federal Anti-Kickback Statute prohibits, among other things, any person from knowingly and willfully offering, soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual, for an item or service or the purchasing or ordering of a good or service, for which payment may be made under federal healthcare programs such as the Medicare and Medicaid programs. The Anti-Kickback Statute is subject to evolving interpretations. In the past, the government has enforced the Anti-Kickback Statute to reach large settlements with healthcare companies based on sham consulting and other financial arrangements with physicians. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. 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 federal False Claims Act. The majority of states also have anti-kickback laws, which establish similar prohibitions and, in some cases, may apply to items or services reimbursed by any third-party payor, including commercial insurers.

Additionally, the civil False Claims Act prohibits knowingly presenting or causing the presentation of a false, fictitious or fraudulent claim for payment to the U.S. government, knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the U.S. government, or from knowingly making a false statement to avoid, decrease or conceal an obligation to pay money to the U.S. government. Actions under the False Claims Act may be brought by the Attorney General or as a qui tam action by a private individual in the name of the government. Violations of the False Claims Act can result in very significant monetary penalties and treble damages. The federal government is using the False Claims Act, and the accompanying threat of significant liability, in its investigation and prosecution of pharmaceutical and biotechnology companies throughout the U.S., for example, in connection with the promotion of products for unapproved uses and other sales and marketing practices. The government has obtained multi-million and multi-billion-dollar settlements under the False Claims Act in addition to individual criminal convictions under applicable criminal statutes. Given the significant size of actual and potential settlements, it is expected that the government will continue to devote substantial resources to investigating healthcare providers' and manufacturers' compliance with applicable fraud and abuse laws.

The U.S. federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), created new federal criminal statutes that prohibit among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and 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 healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

There has also been a recent trend of increased federal and state regulation of payments made to physicians and other healthcare providers. The ACA, among other things, imposes new reporting requirements on drug manufacturers for payments made by them to physicians, teaching hospitals and, beginning in 2022, certain other health care professionals, as well as ownership and investment interests held by physicians and their immediate family members. Failure to submit required information may result in civil monetary penalties for all payments, transfers of value or ownership or investment interests that are not timely, accurately and completely reported in an annual submission. Certain states also mandate implementation of compliance programs and compliance with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, impose restrictions on drug manufacturer marketing practices and/or require the tracking and reporting of pricing and marketing information as well as gifts, compensation and other remuneration or items of value provided to physicians and other healthcare professionals and entities.

We may also be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH") and their respective implementing regulations, including the final omnibus rule published on January 25, 2013, imposes specified requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's privacy and security standards directly applicable to "business associates," defined as independent contractors or agents of covered entities that create, receive, maintain or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws and non-US laws and regulations (particularly EU laws regarding personal data relating to individuals based in Europe) govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways, thus complicating compliance efforts. . For example, California recently enacted legislation, the California Consumer Privacy Act, or CCPA, which went into effect January 2020. The CCPA, among other things, creates new data privacy obligations for covered companies and provides new privacy rights to California residents, including the right to opt out of certain disclosures of their information. The CCPA also creates a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach. Although the law includes limited exceptions, including for "protected health information" maintained by a covered entity or business associate, it may regulate or impact our processing of personal information depending on the context.

Environment

Our third-party manufacturers are subject to inspections by the FDA for compliance with cGMP and other U.S. regulatory requirements, including U.S. federal, state and local regulations regarding environmental protection and hazardous and controlled substance controls, among others. Environmental laws and regulations are complex, change frequently and have tended to become more stringent over time. We have incurred, and may continue to incur, significant expenditures to ensure we are in compliance with these laws and regulations. We would be subject to significant penalties for failure to comply with these laws and regulations.

Our Company Origins and Team

Our Probody platform technology has its origins in work performed at the University of California, Santa Barbara ("UCSB"), by our scientific founder Professor Patrick Daugherty. Since our inception, we have continued developing and adding to this technology and aspire to design a pipeline of Probody therapeutics that will better the lives of cancer patients. We have assembled an experienced and talented group of individuals dedicated to the advancement of cancer care. Our chief executive officer, Dr. Sean McCarthy, leads a team that draws on robust experience in all phases of product discovery, clinical development and commercialization. Our research and preclinical development team is led by Dr. Michael Kavanaugh, chief scientific officer, and includes renowned and established researchers, and our clinical development team is led by Dr. Amy Peterson, chief development officer. Our management team members have significant experience in oncology with previous experience at BeiGene, Chiron, Five Prime, Genentech, Maxygen, Medivation, Millennium, Novartis, SGX and other companies.

Employees

As of December 31, 2019, we had 158 full-time employees and 2 part-time employees. Of these employees, 118 were primarily engaged in research and development activities.

Corporate Information

Our operations commenced in February 2008 when our predecessor entity was formed. We were incorporated in Delaware in September 2010. We maintain our executive offices at 151 Oyster Point Blvd., Suite 400, South San Francisco, California 94080, and our main telephone number is (650) 515-3185.

We view our operations and measure our business as one reportable segment operating in the United States. See Note 2 to our audited financial statement included elsewhere in this Annual Report on Form 10-K for additional information. Additional information required by this item is incorporated herein by reference to PART II. Item 6 of this Annual Report on Form 10-K.

Our research and development expenses were $131.6 million, $103.9 million and $92.3 million for the years ended December 31, 2019, 2018 and 2017, respectively. Please see “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Research and Development Expenses” for additional detail regarding our research and development activities.

We maintain a website at *www.cytomx.com*, which contains information about us. The information in, or that can be accessed through, our website is not part of this Annual Report on Form 10-K. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K and amendments to those reports are available, free of charge, on or through our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding our filings at *www.sec.gov*.

PART II – OTHER INFORMATION

Item 1A. Risk Factors

You should consider carefully the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K, including our financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations." If any of the following risks are realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. The risks described below are not the only risks facing the Company. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition, results of operations and/or prospects.

Risks Related to Our Business

We are a clinical-stage biopharmaceutical company with a limited operating history and have not generated any revenue from product sales. We have a history of losses, expect to continue to incur significant losses for the foreseeable future and may never achieve or maintain profitability, which could result in a decline in the market value of our common stock.

We are a clinical-stage biopharmaceutical company with a limited operating history, developing a novel class of therapeutic antibody product candidates, based on our proprietary biologic Probody technology platform. Since our inception, we have devoted our resources to the development of Probody therapeutics. We have had significant operating losses since our inception. As of December 31, 2019 and 2018, we had an accumulated deficit of $417.2 million and $315.0 million, respectively. Substantially all of our losses have resulted from expenses incurred in connection with our research and development programs and from general and administrative costs associated with our operations.

Though we have developed our Probody platform, our technologies and product candidates are in early stages of development, and we are subject to the risks of failure inherent in the development of product candidates based on novel technologies. We have not yet demonstrated our ability to successfully complete any clinical trials, including large-scale, pivotal clinical trials, obtain regulatory approvals, arrange for a third party to manufacture a commercial scale product candidate, or conduct sales and marketing activities necessary for successful commercialization. Typically, it takes many years to develop one product candidate from the time it enters initial preclinical studies to when it is available for treating patients. Consequently, any predictions made about our future success or viability may not be as accurate as they could be if we had a longer operating history. We will need to transition from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

Furthermore, we have never generated any revenue from product sales, and have not obtained regulatory approval for any of our product candidates. We also do not expect to generate any revenue from product sales for the foreseeable future, and we expect to continue to incur significant operating losses for the foreseeable future due to the cost of research and development, preclinical studies and clinical trials and the regulatory approval process for our product candidates. We expect our net losses to increase substantially as we continue clinical development of our lead programs and advance additional programs into clinical development. In particular, we expect our losses to increase substantially as we begin to enroll patients in our Phase 2 clinical trial of CX-072, our candidate directed against PD-L1, in combination with ipilimumab in patients with relapsed or refractory melanoma and our Phase 2 clinical trial of CX-2009, our PDC candidate directed against CD-166 in patients with hormone receptor (ER, PR) positive, HER2 negative breast cancer, as we continue our other ongoing Phase 1/2 clinical trials of CX-072, CX-2009, and CX-2029, our PDC candidate directed against CD71 in collaboration with AbbVie Inc., and as we advance into later trials and new trials for other programs. However, the amount of our future losses is uncertain. Our ability to achieve profitability, if ever, will depend on, among other things, our, or our collaborators, successfully developing product candidates, obtaining regulatory approvals to market and commercialize product candidates, manufacturing any approved products on commercially reasonable terms, establishing a sales and marketing organization or suitable third-party alternatives for any approved product and raising sufficient funds to finance business activities. If we, or our collaborators, are unable to develop our technologies and commercialize one or more of our product candidates or if sales revenue from any product candidate that receives approval is insufficient, we will not achieve profitability, which could have a material and adverse effect on our business, financial condition, results of operations and prospects.

We expect that we will need to raise substantial additional funds to advance development of our product candidates and we cannot guarantee that this additional funding will be available on acceptable terms or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate our product development and commercialization of our current or future product candidates.

The development of biopharmaceutical product candidates is capital-intensive. To date we have used substantial funds to develop our technology and product candidates and will require significant funds to conduct our ongoing clinical trials as well as to further our research and development, preclinical testing and future clinical trials of additional product candidates, to seek regulatory approvals for our product candidates and to manufacture and market any products that are approved for commercial sale. In addition, we have incurred and will continue to incur additional costs associated with operating as a public company.

As of December 31, 2019, we had $296.1 million in cash, cash equivalents and short-term investments. We believe that our existing capital resources will be sufficient to fund our planned operations at least for the next twelve months from the date the financial statements included in this report are issued. Our future capital requirements and the period for which we expect our existing resources to support our operations may vary significantly from what we expect. Our monthly spending levels vary based on our ongoing clinical trials, new and ongoing research and development and other corporate activities. For example, we expect our monthly spending to increase substantially as we begin to enroll patients in both our Phase 2 clinical trial of CX-072 in combination with ipilimumab in patients with relapsed or refractory melanoma and our Phase 2 clinical trial of CX-2009 in patients with hormone receptor (ER, PR) positive, HER2 negative breast cancer, as we continue our other ongoing Phase 1/2 clinical trials of CX-072, CX-2009, and CX-2029, and as we advance into later trials and new trials for other programs. Because the length of time and activities associated with conducting our clinical trials and successfully researching and developing our product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development and, once any product candidate is approved, any subsequent marketing and commercialization activities.

The timing and amount of our operating expenditures will depend largely on:

- the scope, timing and progress of our ongoing clinical trials as well as any other preclinical and clinical development activities;
- the number, size and type of clinical trials and preclinical studies that we may be required to complete for our product candidates, as well as the cost and time of such studies and trials;
- the number, scope and prioritization of preclinical and clinical programs we decide to pursue;
- the time and cost necessary to produce clinical supplies of our product candidates;
- the time and cost necessary to scale our manufacturing capabilities following regulatory approval and commercial launch of any product candidates.
- the progress of the development efforts of parties with whom we have entered or may in the future enter into collaborations and research and development agreements;
- the timing and amount of payments we may receive or are obligated to pay under our collaboration agreements and license agreements;
- our ability to maintain our current licenses and research and development programs and to establish new collaboration arrangements;
- the costs involved in prosecuting and enforcing patent and other intellectual property claims;
- the cost and timing of regulatory approvals; and
- our efforts to enhance operational systems and hire additional personnel, including personnel to support development and commercialization of our product candidates and satisfy our obligations as a public company.

If we are unable to obtain funding on a timely basis or on acceptable terms, we may have to delay, reduce or terminate our research and development programs and preclinical studies or clinical trials, limit strategic opportunities or undergo reductions in our workforce or other corporate restructuring activities. We also could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies or product candidates that we would otherwise pursue on our own. We do not expect to realize revenue from sales of products or royalties from licensed products in the foreseeable future, if at all, and unless and until our product candidates are clinically tested, approved for commercialization and successfully marketed. To date, we have financed our operations primarily through sales of our common stock, sale of our convertible preferred securities prior to our IPO and payments received under our collaboration agreements, including, most recently, the Collaboration and License Agreement that we entered into with Amgen in September 2017. We will be required to seek additional funding in the future and currently intend to do so through additional collaborations, public or private equity offerings or debt financings, credit or loan facilities or a combination of one or more of these funding sources. Our ability to raise additional funds will depend on financial, economic and other factors, many of which are beyond our control. Additional funds may not be available to us on acceptable terms or at all. If we raise additional funds by issuing equity securities, our stockholders will suffer dilution and the terms of any financing may adversely affect the rights of our stockholders. In addition, as a condition to providing additional funds to us, future investors may demand, and may be granted, rights superior to those of existing stockholders. Debt financing, if available, is likely to involve restrictive covenants limiting our flexibility in conducting future business activities, and, in the event of insolvency, debt holders would be repaid before holders of our equity securities received any distribution of our corporate assets.

Clinical 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. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

As is the case with all oncology drugs, our product candidates in clinical development or preclinical development have a high risk of failure. We initiated a Phase 2 clinical trial of CX-072 in combination with ipilimumab for cancer in October 2019, have initiated a Phase 2 clinical trial of CX-2009 in patients with hormone receptor (ER, PR) positive, HER2 negative breast cancer, and we continue our 2017 Phase 1/2 clinical trials of CX-072 and CX-2009. We also initiated our Phase 1/2 clinical trial of CX-2029, our PDC candidate directed against CD71 in collaboration with AbbVie, for cancer in June 2018. Each of these clinical trials is ongoing. In addition, Bristol-Myers Squibb commenced enrollment of a Phase 1/2 clinical trial for BMS-986249, a Probody therapeutic directed against CTLA-4, in 2018 and initiated a Phase 1/2 trial for BMS-986288 in 2020. It is impossible to predict when or if any of our or our partner's product candidates will prove effective and safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we or our partners must complete extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Commencement of clinical trials for programs beyond CX-072, CX-2009, CX-2029, BMS-986249 and BMS-986288 is subject to finalizing the trial design and filing an IND or similar filing with the FDA or similar foreign regulatory authority. In addition, even if we file our IND or comparable submissions in other jurisdictions for these or other product candidates, the FDA or other regulatory authorities could disagree that we have satisfied their requirements to commence our clinical trials or disagree with our study design, which may require us to complete additional preclinical studies or amend our protocols or impose stricter conditions on the commencement of clinical trials and may delay our ability to begin Phase 1 clinical trials, causing an increase in the amount of time and expense required to develop our product candidates. As a result of the foregoing, the research and development, preclinical studies and clinical testing of any product candidate is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the development process.

Further, we or our collaborators may also experience delays in completing ongoing clinical trials, completing preclinical studies or initiating further clinical trials of our product candidates. We do not know whether our or our collaborators' ongoing clinical trials or preclinical studies will be completed on schedule or at all, or whether planned clinical trials or preclinical studies will begin on time, need to be redesigned, enroll patients on time or be completed on schedule, if at all. We or our collaborators may have insufficient internal resources to complete ongoing clinical trials or initiate clinical trials for our other product candidates. The development programs for our product candidates may be delayed for a variety of reasons, including delays related to:

- recruiting suitable patients to participate in a clinical trial;
- developing and validating any companion diagnostic to be used in a clinical trial;
- the FDA or other regulatory authorities requiring us to submit additional data or imposing other requirements before permitting us to initiate a clinical trial;
- obtaining regulatory clearance to commence a clinical trial;
- reaching agreement on acceptable terms with prospective contract research organization ("CROs") and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- obtaining institutional review board ("IRB") approval at each clinical trial site;
- having patients complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or dropping out of a trial;
- adding new clinical trial sites;
- manufacturing our product candidates in sufficient quality and quantity for use in clinical trials; or
- collaborators electing to not pursue development and commercialization of our product candidates.

In addition, 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. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or safety profiles, notwithstanding promising results in earlier trials.

Our product candidates are in early stages of development and may fail or suffer delays that materially and adversely affect their commercial viability. If we are unable to advance our product candidates through clinical development, obtain regulatory approval and ultimately commercialize such product candidates, or experience significant delays in doing so, our business will be materially harmed.

We are very early in our development efforts, with only three product candidates, CX-072, CX-2009 and CX-2029, currently in early stage clinical development. In addition, Bristol-Myers Squibb is currently evaluating BMS-986249, a CTLA-4-directed Probody therapeutic in a Phase 1/2 clinical trial that it initiated in January 2018 and a Phase 2 trial initiated in 2020. We have no products on the market and our ability to achieve and sustain profitability depends on obtaining regulatory approvals for and successfully commercializing our product candidates, either alone or with third parties. Before obtaining regulatory approval for the commercial distribution of our product candidates, we or our collaborator must conduct extensive preclinical tests and clinical trials to demonstrate sufficient safety and efficacy of our product candidates in patients.

As a result, we may not have the financial resources to continue development of, or to modify existing or enter into new collaborations for, a product candidate if we experience any issues that delay or prevent regulatory approval of, or our ability to commercialize, product candidates, including:

- negative or inconclusive results from our clinical trials, the clinical trials of our collaborators or the clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical testing or clinical trials or abandon a program;
- product-related side effects experienced by participants in our clinical trials, the clinical trials of our collaborators or by individuals using drugs or therapeutic biologics similar to our product candidates;
- delays in submitting INDs or comparable foreign applications or delays or failure in obtaining the necessary approvals from regulators to commence a clinical trial, or a suspension or termination of a clinical trial once commenced;
- conditions imposed by the FDA or comparable foreign authorities regarding the scope or design of our clinical trials;
- delays in enrolling research subjects in clinical trials;
- high drop-out rates of research subjects;
- inadequate supply or quality of product candidate components or materials or other supplies necessary for the conduct of our clinical trials or the clinical trials of our collaborators;
- greater than anticipated clinical trial costs;
- delay in the development or approval of companion diagnostic tests for our product candidates;
- unfavorable FDA or other regulatory agency inspection and review of a clinical trial site;
- failure of our third-party contractors or investigators to comply with regulatory requirements or otherwise meet their contractual obligations in a timely manner, or at all;
- delays and changes in regulatory requirements, policy and guidelines, including the imposition of additional regulatory oversight around clinical testing generally or with respect to our technology in particular; or
- varying interpretations of data by the FDA and similar foreign regulatory agencies.

We could find that the therapeutics we or our collaborators pursue are not safe or efficacious. Further, a clinical trial may be suspended or terminated by us, our collaborators, the IRBs of the institutions in which such trials are being conducted, the Data Safety Monitoring Board for such trial or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site 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 or therapeutic biologic, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Furthermore, we expect to rely on our collaborators, CROs and clinical trial sites to ensure proper and timely conduct of our clinical trials and while we expect to enter into agreements governing their committed activities, we have limited influence over their actual performance.

If we or our collaborators 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 or receive royalties 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 development and approval process and jeopardize our ability to commence product sales and generate revenues. Furthermore, if one or more of our product candidates or our Probody therapeutic technology generally prove to be ineffective, unsafe or commercially unviable, the development of our entire platform and pipeline could be delayed, potentially permanently. Any of these occurrences may materially and adversely affect our business, financial condition, results of operations and prospects. 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.

Our product candidates may cause undesirable side effects at any time during or after the clinical trial process 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, including withdrawal from the market.

Undesirable side effects caused by our product candidates could cause us, our collaborators 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 regulatory authorities. As is the case with all oncology drugs, there may be immediate or late side effects associated with the use of our product candidates (e.g. CX-072, CX-2009 and CX-2029). There can be no assurance that unexpected adverse events will not occur in our ongoing trials or in future trials involving our product candidates or the product candidates of our collaborators. Undesirable side effects may appear in later trials that were not observed in our earlier trials or may be more severe in later trials than earlier trials.

We have announced preliminary clinical data on CX-072 and CX-2009 at various meetings and at our CytomX 2019 R&D Day. Clinical data we report, including efficacy and safety data, will vary over time and such data will evolve as we treat additional patients and pursue further clinical trials. The rates of clinical activity and rates and types of adverse events will evolve as well. Interim, top-line or preliminary data from our clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the top-line or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated.

In June 2019, we reported that the administration of monotherapy CX-072 has been generally well tolerated with the majority of treatment-related adverse events ("TRAEs") as Grade 1/2. At that time, we also reported that of the 72 monotherapy patients treated with 10mg/kg every two weeks and who were evaluable for safety, 6% of patients experienced a grade ≥3 TRAE, and 3% experienced grade ≥3 immune related adverse events (irAEs), with no (0%) TRAEs leading to treatment discontinuation. We have also reported that at the 10 mg/kg dose the anti-drug antibody ("ADA") rate was approximately 62%. While we do not believe this ADA is impacting our ability to reach targeted drug exposures, we cannot provide assurance that the rate will not change or that it will not later limit drug exposure or cause severe adverse events. We also cannot provide assurance that the rates and the types of adverse events will not increase with time as more patients are treated in ongoing or future studies.

Administration of CX-072 in combination with ipilimumab has been generally well tolerated with the majority of TRAEs as Grade 1/2. In October 2019, we reported that of the 27 patients treated across all combination doses, Grade 3/4 TRAEs were reported in nine (33%) patients and Grade 3/4 immune related adverse events (irAEs) were reported in six (22%) patients. Of the 20 patients treated with ipilimumab at 3 mg/kg at varying doses of CX-072, Grade 3/4 TRAEs were reported in five (25%) patients and Grade 3/4 irAEs were reported in three (15%) patients. We cannot provide assurance that these rates and the types of adverse events will not increase over time with more patients being treated in ongoing or future studies.

Administration of CX-2009 has also been generally well tolerated to date with most reported TRAEs being Grade 1/2. In February 2019 we announced that 23/76 (30.3%) patients experienced a Grade 3/4 TRAE. The most common adverse event observed was ocular toxicity, an anticipated toxicity associated with the DM4 payload. Other Grade 3/4 TRAEs included liver function test abnormalities, gastrointestinal disorders and nervous system disorders. We cannot guarantee that these rates and the types of adverse events will not increase over time with more patients being treated in ongoing or future studies.

The results of our future clinical trials or the clinical trials of our collaborators could reveal a high and unacceptable severity of adverse side effects including immune system related adverse events or increased toxicity, and it is possible that patients enrolled in such clinical trials could respond in unexpected ways or otherwise have unexpected adverse events. For example, in October 2019, we announced the initiation of our first Phase 2 clinical trial of CX-072 at a dose level of 10 mg/kg in combination with ipilimumab at a dose level of 3mg/kg. This dose of ipilimumab in combination with another PD agent, Nivolumab, is often not tolerated by patients. While we believe our Phase 1 clinical data supports this combination, only further clinical testing will determine whether such a combination is tolerable for patients. Additionally, the Phase 2 clinical trial of BMS-986249 being conducted by Bristol-Myers Squibb includes the administration of the product candidate at relatively high dosage levels, which could further exacerbate such risks. In our Phase 2 clinical trial with CX-2009 and CX-2029, we are targeting CD-166 and CD71, respectively, targets that are broadly expressed on normal tissue, which could create unacceptable toxicity or fail to result in anti-tumor activity. For instance, CD71 is a metabolic protein with high levels of expression in healthy tissues, and the consequences of targeting such protein in humans are unknown. Any future clinical trials of our product candidates could face similar or heightened risks depending on the modality.

In the event that our clinical trials or the clinical trials of our collaborators reveal severe adverse side effects, our trials or the clinical trials of our collaborators could be suspended or terminated and the FDA or comparable foreign regulatory authorities could impose a clinical hold, order us to cease further development of or deny approval of our product candidates for any or all targeted indications. Such side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. For example, in our Phase 1/2 clinical trial of CX-2009, some patients have stopped treatment due to ocular toxicity. While we are using ocular toxicity prophylactic measures in our dose optimization phase and our Phase 2 clinical trial, we cannot be assured that such measures will be effective. In addition, any of these occurrences with respect to one of our product candidates could negatively affect our or any collaborator's ability to enroll patients and seek regulatory approval for other product candidates that we have developed using our Probody platform, which could also result in a collaborator terminating any program utilizing our Probody platform and the termination of such collaborative relationship. Any of these occurrences may materially and adversely affect our business, financial condition, results of operations and prospects. Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate.

In the event that any of our product candidates receives regulatory approval and we, our collaborators or others identify undesirable side effects caused by such product or any other Probody therapeutics, any of the following adverse events could occur, which could result in the loss of significant revenue to us and materially and adversely affect our results of operations and business:

- regulatory authorities may withdraw their approval of the product or seize the product;
- we or our collaborators may be required to recall the product or change the way the product is administered to patients;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof;
- we may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a "black box" warning or a contraindication;
- 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;
- the product may become less competitive; and
- our reputation may suffer.

In addition, adverse side effects caused by any drugs of other companies utilizing the same or similar anti-bodies of our product candidates, or that are similar in nature to our product candidates could delay or prevent regulatory approval of our product candidates, limit the commercial profile of an approved label for our product candidates, or result in significant negative consequences following marketing approval.

We believe that any of these events could prevent us from achieving or maintaining market acceptance of our product candidates and could substantially increase the costs of commercializing our product candidates, if approved, and significantly impact our ability to successfully commercialize our product candidates and generate revenues.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.

We may not be able to initiate or continue clinical trials for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside the United States. Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors, including:

- the size and nature of the target patient population;
- the eligibility criteria for the clinical trial;
- the design of the clinical trial;
- the availability of an appropriate genomic screening test;
- the perceived risks and benefits of the product candidate under study;
- the efforts to facilitate timely enrollment in clinical trials;
- the patient referral practices of physicians;

- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

In addition, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs or therapeutic biologics that may be approved for the indications we are investigating, could affect our ability to enroll a sufficient number of eligible patients in our clinical trials. For example, in our Phase 1/2 clinical trial of CX-072, which is directed against PD-L1, we were only permitted to enroll patients with cancer types for which there are no PD inhibitors available for sale. As there are currently several PD-1 and/or PD-L1 agents approved for a growing list of cancer types along with hundreds of clinical trials exploring the use of PD-1 and PD-L1 agents, there was no assurance that patients would choose to enroll in our clinical trial. While that trial is fully enrolled, there can be no assurance that further trials with CX-072, including our Phase 2 clinical trial that we initiated in October 2019, or our other drug candidates will not be adversely affected by a limited patient population. Our clinical trials of CX-072, CX-2009 and CX-2029 study patients who have one or a select number of specific tumor types rather than patients suffering from any cancer, which limits the rate of enrollment of the trial. In addition, some of our clinical trials seek to treat indications with small population sizes which could be particularly difficult to enroll. As with the clinical trials of CX-072, our clinical trials of CX-2009 and CX-2029 are also competing with hundreds of clinical trials with alternative anti-cancer drugs in a similar class (e.g. antibody drug conjugates), and certain arms of the clinical trials may be difficult to enroll due to the emerging standard of care for such indications in certain jurisdictions, including the United States. Any clinical trials of our product candidates initiated by our collaborators, including Bristol-Myers Squibb's ongoing Phase 2 clinical trial, face similar and additional risks relating to enrollment. We or our collaborators could also encounter delays in the development of any of our product candidates if prescribing physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles. Any delays relating to patient enrollment could cause significant delays in the timing of our clinical trials or the clinical trials of our collaborators, which may materially and adversely affect our business, financial condition, results of operations and prospects.

Our approach to the discovery and development of our therapeutic treatments is based on novel technologies that are unproven and may not result in marketable products.

We plan to continue to develop a pipeline of product candidates using our proprietary Probody platform. We believe that product candidates (including cancer immunotherapies, PDCs and bispecific antibodies) identified with our product discovery platform may offer an improved therapeutic approach by taking advantage of unique conditions in the tumor microenvironment, thereby reducing the dose-limiting toxic effects associated with traditional antibody products, which can also attack healthy tissue. However, the scientific research that forms the basis of our efforts to develop product candidates based on our Probody platform is ongoing, including the research resulting from our ongoing clinical trials for CX-072, CX-2009 and CX-2029.

We may ultimately discover that our Probody platform and any product candidates resulting from it do not possess certain properties required for therapeutic effectiveness or protection from toxicity. For example, when Probody therapeutics are administered to human subjects, protease levels in tumors may not be sufficient and the peptide mask may not be cleaved, which would limit the potential efficacy of the antibody. In addition, if the peptide mask is inappropriately released, for example, due to an inflammatory disease, it may reduce the potential to limit toxicity of the anti-cancer agent or result in unforeseen events when administered in humans. Binding of the peptide mask to the antigen binding domain of the Probody may not be constant, which could lead to intermittent periods when the antigen binding domain or antibody portion is unmasked. Furthermore, Probody product candidates may not remain stable in the human body for the period of time required for the drug to reach and to bind to the target tissue. In addition, product candidates based on our Probody platform may demonstrate different chemical and pharmacological properties in patients than they do in laboratory studies. Although our Probody platform and certain product candidates have demonstrated successful results in animal studies, they may not demonstrate the same chemical and pharmacological properties in humans and may interact with human biological systems in unforeseen, ineffective or harmful ways. Our understanding of the molecular pharmacology of Probody therapeutics, that is, the precise manner and sequence in which they are activated and behave in vivo, is incomplete. Probody therapeutics are complex biological molecules and we are evaluating the performance of this new technology in cancer patients for the first time. Many specific elements of Probody therapeutic function may contribute to their overall safety and efficacy profile including, but not limited to, the removal of only one mask from the dually masked antibody, the removal of both masks from the dually masked antibody, the binding strength of masks for the underlying antibody, and the binding strength of the underlying antibody for its target. We have no direct structural evidence for how masks interact with antibodies. It may take many years before we develop a full understanding of Probody pharmacology, and we may never know precisely how they function in vivo. As with any new biologic or product developed on a novel platform, we have a limited understanding of the immunogenicity profile of Probody therapeutics. As a result, our Probody product candidates may trigger immune responses, such as ADA, that may inhibit the ability of the antibody to reach the target tissue, inhibit the ability of the antibody to bind to its target, cause adverse side effects in humans or cause hypersensitivity reactions. For example, we reported in February 2019 that in our ongoing CX-072 trial at the 10 mg/kg dose, the anti-drug antibody ("ADA") rate was approximately 62%. We do not believe ADA is impacting our ability to reach targeted drug exposures. However, we cannot provide assurance that it will not later limit drug exposure or cause severe adverse events. Problems that are specific to our Probody platform may have an unfavorable impact on all of our product candidates. As a result, we may never succeed in developing a marketable product and we may never become profitable, which would cause the value of our common stock to decline.

In addition, the scientific evidence to support the feasibility of developing product candidates against novel, difficult to drug targets, is both preliminary and limited. For example, our understanding of the expression of CD166 in both healthy and diseased tissues is still developing. As a result, we cannot provide any assurance that we will be able to successfully identify and advance any product candidates to target novel, difficult to drug targets.

We believe the only clinical experience that the FDA and foreign regulatory authorities have with Probody-based therapeutics in oncology comes from CX-072, CX-2009, CX-2029 and BMS-986249. We believe that the FDA and foreign regulatory authorities, have no clinical experience in other disease areas, and such limited experience may increase the complexity, uncertainty and length of the regulatory approval process for our product candidates and may keep us from commencing first-in-human trials in certain countries. As there is limited historical precedent for the regulatory clearance of Probody-based therapeutics in oncology, there is a higher degree of risk that the FDA or other regulatory authorities could disagree that we or our collaborators have satisfied their requirements to commence clinical trials for some product candidates or disagree with our study designs, which may require us to complete additional preclinical studies or amend our protocols or impose stricter conditions on the commencement of clinical trials. In addition, local clinical practice in other countries may affect whether we or our collaborators are able to initiate a clinical trial there. As a result, we and our collaborators may never receive approval to market and commercialize any product candidate. Even if we or our collaborators obtain regulatory approval, the approval may be for targets, disease indications or patient populations that are not as broad as we or they intended or desired or may require labeling that includes significant use or distribution restrictions or safety warnings. We or our collaborators may be required to perform additional or unanticipated clinical trials to obtain approval or be subject to post-marketing testing requirements to maintain regulatory approval. If one or more of our product candidates or our Probody technology generally prove to be ineffective, unsafe or commercially unviable, our entire platform and pipeline may have little, if any, value, which would have a material and adverse effect on our business, financial condition, results of operations and prospects.

The market may not be receptive to our product candidates based on a novel therapeutic modality, and we may not generate any future revenue from the sale or licensing of product candidates.

Even if regulatory approval is obtained for a product candidate, we may not generate or sustain revenue from sales of the product due to factors such as whether the product can be sold at a competitive cost and whether it will otherwise be accepted in the market. The product candidates that we are developing are based on our Probody platform, which is a new technology and therapeutic approach. Market participants with significant influence over acceptance of new treatments, such as physicians and third-party payors, may not adopt a product or treatment based on our Probody platform and technologies, and we may not be able to convince the medical community and third-party payors to accept and use, or to provide favorable reimbursement for, any product candidates developed by us or our collaborators. This may be particularly true for any of our product candidates (including CX-072 and BMS-986249) for which there are existing approved therapies, such as approved agents targeting PD-L1, PD-1, or CTLA-4. Market acceptance of our product candidates will depend on, among other factors:

- the timing of our receipt of any marketing and commercialization approvals;
- the terms of any approvals and the countries in which approvals are obtained;
- the safety and efficacy of our product candidates, including those being developed by our collaborators;
- the prevalence and severity of any adverse side effects associated with our product candidates;
- limitations or warnings contained in any labeling approved by the FDA or other regulatory authority;
- the availability of effective companion diagnostics;
- relative convenience and ease of administration of our product candidates;
- the willingness of patients to accept any new methods of administration;
- the success of our physician education programs;
- the availability of coverage and adequate reimbursement from government and third-party payors;
- the pricing of our products, particularly as compared to alternative treatments; and
- the availability of alternative effective treatments for the disease indications our product candidates are intended to treat and the relative risks, benefits and costs of those treatments.

If any product candidate we commercialize fails to achieve market acceptance, it could have a material and adverse effect on our business, financial condition, results of operations and prospects.

We have entered, and may in the future seek to enter, into collaborations with third parties for the development and commercialization of our product candidates using our Probody platform. If we fail to enter into such collaborations, or such collaborations are not successful, we may not be able to capitalize on the market potential of our Probody platform and resulting product candidates.

Since 2013, we have entered into collaborations with AbbVie, Amgen, Bristol-Myers Squibb, ImmunoGen, Pfizer and others to develop certain Probody therapeutics. We may in the future seek third-party collaborators for development and commercialization of other therapeutic technologies or product candidates. Biopharmaceutical companies are our prior and likely future collaborators for any marketing, distribution, development, licensing or broader collaboration arrangements. With respect to our existing collaboration agreements, and what we expect will be the case with any future collaboration agreements, we have and would expect to have limited control over whether such collaborations pursue the development of our product candidates or the amount and timing of resources that such collaborators dedicate to the development or commercialization of our product candidates. For instance, in March 2018, Pfizer terminated the collaboration agreement we had entered into with them in May 2013. Such collaboration agreement had entitled Pfizer to nominate up to four research targets and since 2013, we had collaborated with Pfizer on three of such targets. However, no program was ever advanced beyond the lead optimization stage pursuant to the agreement, and Pfizer had previously elected not to select a fourth target and had decided to discontinue its epidermal growth factor receptor Probody Drug Conjugate. In July 2017, ImmunoGen discontinued the preclinical evaluation of one of its two programs being developed under our collaboration and in December 2019, licensed the other program to us, terminating their license agreement from us. In addition, in January 2019, Bristol-Myers Squibb terminated its programs for three targets it had selected under our agreement with them. As a result, there can be no assurances that any of the programs covered by our existing or future collaborations will be developed further. Further, our ability to generate revenues from our existing and future arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements. Additionally, some of our collaborations may require us to share in certain development and commercialization expenses. If we cannot afford to share such expenses when required, our rights under such collaborations may be adversely affected, including potentially that our collaborator may terminate the relevant agreement.

Overall, collaborations involving our product candidates currently pose, and will continue to pose, the following risks to us:

- collaborators have significant discretion in determining the amount and timing of efforts and resources that they will apply to these collaborations, including, with respect to Bristol-Myers Squibb, BMS-986249 and BMS-986288;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on preclinical or clinical trial results, changes in the collaborators' strategic focus or available funding or resources, or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators have significant discretion in designing any clinical trials they operate pursuant to our collaboration agreements, including Bristol-Myers Squibb's ongoing Phase 2 cohort expansion of BMS-986249 and its Phase 1/2 clinical trial of BMS-986288, and may release data from such clinical trials, including with respect to our Probody therapeutics, without consulting us;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing and are not necessarily required to give us information about their clinical data;
- collaborators may independently develop, or develop with third parties, products that compete directly or indirectly with our product candidate if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- collaborators with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of such product or products;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to litigation or potential liability;
- collaborators may infringe, misappropriate or otherwise violate the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- disputes may arise between the collaborators and us that result in the delay or termination of the research, development or commercialization of our product candidate or that result in costly litigation or arbitration that diverts management attention and resources; and
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

As a result of the foregoing, our current and any future collaboration agreements may not lead to development or commercialization of our product candidates in the most efficient manner or at all and may not result in the realization of the benefits we expected to achieve upon our entry into such agreements. Any failure to successfully develop or commercialize our product candidates pursuant to our current or any future collaboration agreements could have a material and adverse effect on our business, financial condition, results of operations and prospects.

If our collaborators cease development efforts under our collaboration agreements, or if any of those agreements are terminated, these collaborations may fail to lead to commercial products and we may never receive milestone payments or future royalties under these agreements.

Substantially all of our revenue to date has been derived from our existing collaboration agreements, including, most recently, the Amgen Agreement that we entered into with Amgen in September 2017, and a significant portion of our future revenue and cash resources is expected to be derived from these agreements or other similar agreements we may enter into in the future. Revenue from research and development collaborations depend upon continuation of the collaborations, reimbursement of development costs, the achievement of milestones and royalties, if any, derived from future products developed from our research. If we are unable to successfully advance the development of our product candidates or achieve milestones, revenue and cash resources from milestone payments under our collaboration agreements will be substantially less than expected.

In addition, to the extent that any of our collaborators were to terminate a collaboration agreement, we may decide to independently develop these product candidates to the extent we retain development rights. Such development could include funding preclinical or clinical trials, assuming marketing and distribution costs and defending intellectual property rights. Alternatively, in certain instances, we may choose to abandon product candidates altogether. For instance, in March 2018, Pfizer terminated our 2013 collaboration agreement with them, and in January 2019, Bristol-Myers Squibb terminated its programs for three targets it had selected under our agreement with them. The termination of any of our collaboration agreements or individual programs within a collaboration agreement could result in a change to our business plan and may have a material adverse effect on our business, financial condition, results of operations and prospects. If a collaboration is terminated, we would not be eligible to receive the milestone, royalty or other payments that would have been payable under the collaboration agreement. For example, as a result of ImmunoGen's decision to out-license the EPCAM program and our licensing of the program from them in 2019, their license for the program from us ended and we will not receive milestone or other payments from them.

If we do not achieve our projected development and commercialization goals in the timeframes we announce and expect, the commercialization of any of our product candidates may be delayed, and our business will be harmed.

For planning purposes, we sometimes estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development objectives. These milestones may include our expectations regarding the commencement or completion of scientific studies and clinical trials, the submission of regulatory filings, or commercialization objectives. From time to time, we may publicly announce the expected timing of some of these milestones, such as the completion of an ongoing clinical trial, the initiation of other clinical programs, receipt of marketing approval, or a commercial launch of a product. The achievement of many of these milestones may be outside of our control. All of these milestones are based on a variety of assumptions which may cause the timing of achievement of the milestones to vary considerably from our estimates, including:

- our available capital resources or capital constraints we experience;
- the rate of progress, costs and results of our clinical trials and research and development activities, including the extent of scheduling conflicts with participating clinicians and collaborators;
- our ability to identify and enroll patients who meet clinical trial eligibility criteria;
- our receipt of approvals by the FDA and other regulatory authorities and the timing thereof;
- other actions, decisions or rules issued by regulators;
- our ability to access sufficient, reliable and affordable supplies of materials used in the manufacture of our product candidates;
- our ability to manufacture and supply clinical trial materials to our clinical sites on a timely basis;
- the efforts of our collaborators with respect to the commercialization of our products; and
- the securing of, costs related to, and timing issues associated with, product manufacturing as well as sales and marketing activities.

If we fail to achieve announced milestones in the timeframes we expect, the commercialization of any of our product candidates may be delayed, and our business and results of operations may be harmed.

We may not successfully engage in strategic transactions, including any additional collaborations we seek, which could adversely affect our ability to develop and commercialize product candidates, impact our cash position, increase our expense and present significant distractions to our management.

Since commencing operations, we have entered into several collaboration agreements, including the Amgen Agreement that we entered into with Amgen in September 2017. From time to time, we may consider strategic transactions, such as additional collaborations, acquisitions of companies, asset purchases and out- or in-licensing of product candidates or technologies. In particular, we will evaluate and, if strategically attractive, seek to enter into additional collaborations, including with major biotechnology or biopharmaceutical companies. The competition for collaborators is intense, and the negotiation process is time-consuming and complex. Any new collaboration may be on terms that are not optimal for us, and we may not be able to maintain any new collaboration if, for example, development or approval of a product candidate is delayed, sales of an approved product candidate do not meet expectations or the collaborator terminates the collaboration. Any such collaboration, or other strategic transaction, may require us to incur non-recurring or other charges, increase our near- and long-term expenditures and pose significant integration or implementation challenges or disrupt our management or business. These transactions would entail numerous operational and financial risks, including exposure to unknown liabilities, disruption of our business and diversion of our management's time and attention in order to manage a collaboration or develop acquired products, product candidates or technologies, incurrence of substantial debt or dilutive issuances of equity securities to pay transaction consideration or costs, higher than expected collaboration, acquisition or integration costs, write-downs of assets or goodwill or impairment charges, increased amortization expenses, difficulty and cost in facilitating the collaboration or combining the operations and personnel of any acquired business, impairment of relationships with key suppliers, manufacturers or customers of any acquired business due to changes in management and ownership and the inability to retain key employees of any acquired business. Accordingly, although there can be no assurance that we will undertake or successfully complete any transactions of the nature described above, any transactions that we do complete may be subject to the foregoing or other risks and have a material and adverse effect on our business, financial condition, results of operations and prospects. The termination by a collaborator of a collaboration may cause a decrease in the price of our stock. Conversely, any failure to enter any additional collaboration or other strategic transaction that would be beneficial to us could delay the development and potential commercialization of our product candidates and have a negative impact on the competitiveness of any product candidate that reaches market.

If we are unable to successfully develop companion diagnostic tests for certain of our product candidates, or experience significant delays in doing so, we may not realize the full commercial potential of our product candidates.

Because we are focused on precision medicine, in which predictive biomarkers will be used to identify the right patients for our product candidates, we believe that our success may depend, in part, on the development of companion diagnostic tests. To successfully develop a companion diagnostic test, we would need to address a number of scientific, technical and logistical challenges. However, we have little experience in the development of companion diagnostic tests and may not be successful in developing appropriate tests to pair with any of our product candidates. Companion diagnostic tests are subject to regulation by the FDA and similar regulatory authorities outside the United States as medical devices and require separate regulatory approval prior to commercialization. Given our limited experience in developing companion diagnostic tests, we could seek to rely on third parties to design, manufacture, obtain regulatory approval for any companion diagnostic tests for our product candidates. However, we and such collaborators may encounter difficulties in developing and obtaining approval for the companion diagnostic tests, including issues relating to selectivity/specificity, analytical validation, reproducibility, or clinical validation. Any delay or failure by us or our collaborators to develop or obtain regulatory approval of the companion diagnostic tests could delay or prevent approval of our product candidates. As a result, our business would be harmed, possibly materially.

We rely on third parties to conduct all of our clinical trials and certain of our preclinical studies and intend to continue to do so, and if such third parties do not perform as contractually required, fail to satisfy regulatory or legal requirements or miss expected deadlines, our development programs could be delayed with material and adverse effects on our business, financial condition, results of operations and prospects.

We do not have the ability to independently conduct clinical trials. As such, we currently rely and intend to continue to rely on third-party clinical investigators, CROs, clinical data management organizations and consultants to help us design, conduct, supervise and monitor clinical trials of our product candidates. As a result, we will have less control over the timing, quality and other aspects of our clinical trials than we would have had we conducted them on our own. These investigators, CROs and consultants are not our employees and we have limited control over the amount of time and resources that they dedicate to our programs. These third parties may have contractual relationships with other entities, some of which may be our competitors, which may draw time and resources from our programs. The third parties with which we contract might not be diligent, careful or timely in conducting our preclinical studies or clinical trials, resulting in the preclinical studies or clinical trials being delayed or unsuccessful.

If we cannot contract with acceptable third parties on commercially reasonable terms, or at all, or if these third parties do not carry out their contractual duties, satisfy legal and regulatory requirements for the conduct of preclinical studies or clinical trials or meet expected deadlines, our clinical development programs could be delayed and otherwise adversely affected. In all events, we will be responsible for ensuring that each of our preclinical studies and clinical trials are conducted in accordance with the general investigational plan and protocols for the trial. The FDA requires preclinical studies to be conducted in accordance with good laboratory practices ("GLPs") and clinical trials to be conducted in accordance with good clinical practices ("GCPs"), including for designing, conducting, recording and reporting the results of preclinical studies and clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control will not relieve us of these responsibilities and requirements. Any adverse development or delay in our clinical trials could have a material and adverse effect on our business, financial condition, results of operations and prospects.

We are currently conducting and will continue to conduct clinical trials and will contract with third-party manufacturers in foreign countries, which could expose us to risks that could have a material adverse effect on the success of our business.

We have enrolled or are planning to enroll patients in our clinical trials outside the United States, including in Europe, Australia and South Korea. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. Conducting clinical trials outside the United States also exposes us to additional risks, including risks associated with additional foreign regulatory requirements; foreign exchange fluctuations; patient monitoring and compliance; compliance with foreign manufacturing, customs, shipment and storage requirements; and cultural differences in medical practice and clinical research. We are also subject to risks associated with doing business globally, including commercial, political, and financial risks. In addition, we are subject to potential disruption caused by military conflicts; potentially unstable governments or legal systems; civil or political upheaval or unrest; local labor policies and conditions; possible expropriation, nationalization, or confiscation of assets; problems with repatriation of foreign earnings; economic or trade sanctions; closure of markets to imports; anti-American sentiment; terrorism or other types of violence in or outside the United States; health pandemics; and a significant reduction in global travel. For example, pandemics and public health emergencies, such as the COVID-19 coronavirus, could disrupt or delay enrollment in our clinical trials in South Korea. Our success will depend, in part, on our ability to overcome the challenges we encounter with respect to these risks and other factors affecting U.S. companies with global operations. If our global clinical trials or foreign third-party suppliers were to experience significant disruption due to these risks or for other reasons, it could have a material adverse effect on our business, financial condition, results of operations and prospects.

Because we have no long term contracts with and rely on third-party manufacturing and supply partners, most of which are sole source suppliers, our supply of research and development, preclinical and clinical development materials may become limited or interrupted or may not be of satisfactory quantity or quality.

We rely on third-party contract manufacturers to manufacture our clinical trial and preclinical study product supplies. Most of our clinical trial manufacturing contractors and suppliers are our sole source for their respective manufacturing and supplies. Failure of any of these contractors could put our ability to have clinical trial material available when needed. This could result in a substantial delay of our clinical trials. For each of CX-072 CX-2009 and CX-2029, our manufacturing supply chain includes several contract manufacturers, and failure by any of these manufacturers could result in interruptions of our clinical studies. For example, in November 2019 one of our contract manufacturers that manufactures CX-072 for our Phase 2 clinical trial experienced a production failure. We believe we have contracted with alternative suppliers that will be able to timely deliver clinical trial drug product for our ongoing trial. However, if the contract manufacturers are not able to manufacture satisfactory drug product in the second quarter of 2020, we may be required to temporarily suspend our ongoing trial for new and ongoing patients, which could affect our ability to conduct our trial on our originally planned timeline. We do not own manufacturing facilities for producing such supplies and do not have any long-term contracts and we do not currently have an alternative to any of our third-party contract manufacturers. There can be no assurance that our preclinical and clinical development product supplies will not be limited, interrupted, or of satisfactory quality or continue to be available at acceptable prices. In particular, any replacement of any of our third-party contract manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements. In addition, we may encounter issues with transferring technology to a new third-party manufacturer, and we may encounter regulatory delays if we need to move the manufacturing of our products from one third-party manufacturer to another. For example, we were dependent on ImmunoGen under our collaboration for certain steps in the manufacturing of clinical quantities of CX-2009. At the end of 2018, ImmunoGen closed their clinical manufacturing facility in Norwood, MA. This site provided clinical manufacturing support for the CX-2009 program. We have recently completed transfer of the drug substance manufacturing process from ImmunoGen to a CMO, where we have an existing relationship and which has expertise in the manufacture of antibody drug conjugates at a clinical and commercial scale. While the manufacturing transfer process has been completed, there can be no assurance that we will not experience a disruption in the supply of CX-2009 as a result of such transfer or that we will not experience any other disruption in the manufacture of CX-2009.

The manufacturing process for a product candidate is subject to FDA and foreign regulatory authority review. Suppliers and manufacturers must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by regulatory authorities in order to comply with regulatory standards, such as current Good Manufacturing Practices ("cGMPs"). In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, such as the CX-072 manufacturing production failure our contract manufacturer experienced in November 2019, or if our supply of components or other materials becomes limited or interrupted for other reasons, such as one of our manufacturers going out of business, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third party, which we may not be able to do on reasonable terms, if at all. In some cases, the technical skills or technology required to manufacture our product candidates may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third party and a feasible alternative may not exist. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to have another third party manufacture our product candidates. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop product candidates in a timely manner or within budget.

We expect to continue to rely on third-party manufacturers if we receive regulatory approval for any product candidate. To the extent that we have existing, or enter into future, manufacturing arrangements with third parties, we will depend on these third parties to perform their obligations in a timely manner consistent with contractual and regulatory requirements, including those related to quality control and assurance. If we are unable to obtain or maintain third-party manufacturing for product candidates, or to do so on commercially reasonable terms, we may not be able to develop and commercialize our product candidates successfully. We may find that our third-party manufacturer is unable to scale up the process in order to produce commercial quantities of our products. Our or a third party's failure to execute on our manufacturing requirements and comply with cGMPs could adversely affect our business in a number of ways, including:

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

The supply chain for the manufacturing of our product candidates is complicated and can involve many parties. This is especially the case for our clinical stage Probody Drug Conjugates, CX-2009 and CX-2029. If we were to experience any supply chain issues, our product supply could be seriously disrupted. In addition, we expect the logistical challenges associated with our supply chain to grow more complex as additional product candidates commence any clinical trials.

We, or third-party manufacturers, may be unable to successfully scale-up manufacturing of our product candidates in sufficient quality and quantity, which would delay or prevent us from developing our product candidates and commercializing approved products, if any.

It may prove more challenging than we anticipate to manufacture products that incorporate our Probody therapeutic technology. In order to conduct clinical trials of our product candidates, including our clinical trials for CX-072, CX-2009 and CX-2029, we will need to manufacture them in large quantities. To date we have generally been able to successfully manufacture CX-072, CX-2009 and CX-2029 for our ongoing early stage clinical trials. However, in November 2019 we had a production failure at one of our contract manufacturers that manufactures CX-072 for our Phase 2 clinical trial. We believe we have contracted with alternative suppliers that will be able to timely deliver clinical trial drug product for our ongoing trial. However, if the contract manufacturers are not able to manufacture satisfactory drug product in the second quarter of 2020, we may be required to temporarily suspend our ongoing trial for new and ongoing patients, which could affect our ability to conduct our trial on our originally planned timeline. Furthermore, in order to conduct later stage clinical trials of our product candidates, such as our Phase 2 clinical trial for CX-072, and eventually, if approved, commercial products, we will need to manufacture them in larger quantities. We, or any manufacturing partners, may be unable to successfully increase the manufacturing scale and capacity for any of our product candidates in a timely or cost-effective manner, or at all. For example, we are currently working with our CMOs to change our manufacturing processes and formulations as well as scaling up for larger drug manufacturing capability and to increase the term of stability for CX-072 drug product and we are scaling up CX-2009 drug product for late stage clinical trials and commercialization. However, we may have to start late stage trials with our early clinical trial drug product and switch to late stage or commercial drug product mid trial. In such event, the FDA will require us to complete bridging studies to compare the earlier stage material with late stage or commercial material to assure comparability between the earlier trial material and the late stage or commercial material. Changing formulation and scaling up the

process is a complicated and difficult task. While we believe we can complete this process successfully, there can be no assurances that the changes we make to the drug product and manufacturing process will be successful or completed in a timely manner or that the FDA will not require additional development steps or studies from those we believe are necessary. If we are not able to scale up our manufacturing capabilities with respect to CX-072 or any of our other product candidates, increase the life of drug stability of CX-072 or such other product candidates, or successfully complete the FDA's bridging requirements, we may not be able to successfully obtain FDA approval and commercialize CX-072 or such other product candidates in a timely manner or at all.

Additionally, we were dependent on ImmunoGen under our collaboration for certain steps in the manufacturing of clinical quantities of CX-2009. At the end of 2018, ImmunoGen closed their clinical manufacturing facility in Norwood, Massachusetts, which provided clinical manufacturing support for the CX-2009 program. We recently completed the transfer of the drug substance manufacturing process from ImmunoGen to a contract manufacturer, where we have an existing relationship and with expertise in the manufacture of antibody drug conjugates at a clinical and commercial scale. While the manufacturing transfer process has been completed, there can be no assurance that we will not experience a disruption in the supply of CX-2009 in connection with such transfer or that we will not experience any other disruption in the manufacturing of CX-2009 . In addition, for CX-2029, the manufacturing of additional clinical quantities could be particularly difficult because we are relying on three different parties to manufacture supplies. If we, or any manufacturing partners, are unable to successfully scale up the manufacture of our product candidates in sufficient quality and quantity, the development, testing, and clinical trials of that product candidate may be delayed or infeasible, and regulatory approval or commercial launch of any resulting product may be delayed or not obtained, which could significantly harm our business.

We may acquire assets or form strategic alliances in the future, and we may not realize the benefits of such acquisitions.

As we continue to mature our Probody platform and our clinical stage pipeline, we may seek to acquire and/or in-license other oncology products, product candidates, programs or companies that we consider complimentary to our efforts. Such efforts may never result in a transaction and any future growth through acquisition or in-licensing will depend upon the availability of suitable products, product candidates, programs or companies for acquisition or in-licensing on acceptable prices, terms and conditions. Even if appropriate opportunities are available, we may not be able to acquire rights to them on acceptable terms, or at all. The competition to acquire or in-license rights to promising products, product candidates, programs and companies is fierce, and many of our competitors are large, multinational pharmaceutical and biotechnology companies with considerably more financial, development and commercialization resources, personnel, and experience than we have. In order to compete successfully in the current business climate, we may have to pay higher prices for assets than may have been paid historically, which may make it more difficult for us to realize an adequate return on any acquisition. In addition, even if we succeed in identifying promising products, product candidates, programs or companies, we may not have the ability to develop, obtain regulatory approval for and commercialize such opportunities, or the financial resources necessary to pursue them.

Even if we are able to successfully identify and acquire or in-license new products, product candidates, programs or companies, we may not be able to successfully manage the risks associated with integrating any products, product candidates, programs or companies into our business or the risks arising from anticipated and unanticipated problems in connection with an acquisition or in-licensing. Further, while we seek to mitigate risks and liabilities of potential acquisitions through, among other things, due diligence, there may be risks and liabilities that such due diligence efforts fail to discover, that are not disclosed to us, or that we inadequately assess. Any failure in identifying and managing these risks and uncertainties effectively would have a material adverse effect on our business. In any event, we may not be able to realize the anticipated benefits of any acquisition or in-licensing for a variety of reasons, including the possibility that a product candidate fails to advance to clinical development, proves not to be safe or effective in clinical trials, or fails to reach its forecasted commercial potential or that the integration of a product, product candidate, program or company gives rise to unforeseen difficulties and expenditures. Any failure in identifying and managing these risks and uncertainties would have a material adverse effect on our business.

In addition, acquisitions create other uncertainties and risks, particularly when the acquisition takes the form of a merger or other business consolidation. We may encounter unexpected difficulties, or incur unexpected costs, in connection with transition activities and integration efforts, which include:

- high acquisition costs;
- the need to incur substantial debt or engage in dilutive issuances of equity securities to pay for acquisitions;
- the potential disruption of our historical business and our activities under our collaboration agreements;
- the strain on, and need to expand, our existing operational, technical, financial and administrative infrastructure;
- our lack of experience in late-stage product development and commercialization;
- the difficulties in assimilating employees and corporate cultures;
- the difficulties in hiring qualified personnel and establishing necessary development and/or commercialization capabilities;

- the failure to retain key management and other personnel;
- the challenges in controlling additional costs and expenses in connection with and as a result of the acquisition;
- the need to write down assets or recognize impairment charges;
- the diversion of our management's attention to integration of operations and corporate and administrative infrastructures; and
- any unanticipated liabilities for activities of or related to the acquired business or its operations, products or product candidates.

If we fail to integrate or otherwise manage an acquired business successfully and in a timely manner, resulting operating inefficiencies could increase our costs more than we planned, could negatively impact the market price of our common stock and could otherwise distract us from execution of our strategy. Failure to maintain effective financial controls and reporting systems and procedures could also impact our ability to produce timely and accurate financial statements.

We may expend our limited resources to pursue a particular product candidate and fail to capitalize on product candidates that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we focus on specific product candidates and indications, including CX-072, CX-2009 and CX-2029. As a result, we may forgo or delay pursuit of opportunities with those products in other indications or with other product candidates that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

We may experience difficulties in managing our growth and expanding our operations successfully.

We will need to grow our organization substantially to continue development and pursue the potential commercialization of CX-072, CX-2009 and CX-2029 and our other product candidates, as well as function as a public company. As we increase the number of our product candidates entering and advancing through preclinical studies and clinical trials, we will need to expand our development, regulatory and manufacturing capabilities or contract with additional organizations to provide these capabilities for us. In addition, we expect our collaborations to require greater resources as the development of our product candidates under such agreements progresses. In the future, we expect to also have to manage additional relationships with collaborators or partners, suppliers and other organizations. In particular, if the third-parties on which we currently rely are not capable of delivering services or supplies in a manner that is sufficient to meet our requirements as we expand our operations, we could be required to contract with new third parties and there can be no assurances that the services or supplies of such third parties will be available on commercially reasonable terms, or at all. Furthermore, our ability to manage our operations and future growth will require us to continue to increase headcount as well as improve our operational, financial and management controls, reporting systems and procedures. We may not be able to implement improvements to our management information and control systems in an efficient or timely manner and may discover deficiencies in existing systems and controls.

We face competition from entities that have developed or may develop product candidates for cancer, including companies developing novel treatments and technology platforms. If these companies develop technologies or product candidates more rapidly than we do or their technologies are more effective, our ability to develop and successfully commercialize product candidates may be adversely affected.

The development and commercialization of drugs and therapeutic biologics is highly competitive. We compete with a variety of multinational biopharmaceutical companies and specialized biotechnology companies, as well as technology being developed at universities and other research institutions. Our competitors have developed, are developing or will develop product candidates and processes competitive with our product candidates. Competitive therapeutic treatments include those that have already been approved and accepted by the medical community and any new treatments that enter the market. We believe that a significant number of products are currently under development, and may become commercially available in the future, for the treatment of conditions for which we may try to develop product candidates. For instance, there is intense and rapidly evolving competition in the biotechnology, biopharmaceutical and antibody and immunoregulatory therapeutics fields, and our competitors include larger and better funded biopharmaceutical, biotechnological and therapeutics companies. In addition, these companies compete with us in recruiting scientific and managerial talent.

We believe that while our Probody platform, its associated intellectual property and our scientific and technical know-how, give us a competitive advantage in this space, competition from many sources remains. The clinical development pipeline for cancer includes small molecules, antibodies and therapies from a variety of groups. In addition, numerous compounds are in clinical development for cancer treatment. As a result, our success will partially depend on our ability to develop and protect therapeutics that are safer and more effective than competing products. Our commercial opportunity and success will be reduced or eliminated if competing products that are safer, more effective, or less expensive than the therapeutics we develop or if we are unable to utilize our Probody therapeutic technology to differentiate our Probody therapeutics from the products of our competitors. For instance, if any of our lead product candidates, including CX-072, CX-2009 and CX-2029 are approved, they will compete with a range of therapeutic treatments that are either in development or currently marketed. A variety of oncology drugs and therapeutic biologics are currently on the market or in clinical development. The market for immunotherapies like CX-072 is, in particular, highly competitive and the field is changing quickly. Given the amount of time required to successfully develop and obtain regulatory approval for each of our product candidates, it is therefore possible that by the time we obtain any such approval, if ever, and commence sales, we may no longer be able to differentiate such product candidate from those of our competitors.

We face substantial competition from pharmaceutical companies developing products in immuno-oncology, including companies, such as Amgen, AstraZeneca PLC, Bristol-Myers Squibb, Celgene, GlaxoSmithKline plc, Merck & Co., Inc. Novartis AG, Pfizer, Roche Holding Ltd. and Sanofi SA. Many large and mid-sized biotech companies, including BeiGene, Incyte, Nektar, and Alkermes have ongoing efforts in cancer immunotherapy. Finally, numerous small companies are also working in the space. Several companies, including Akriveia, Amgen, Amunix, BioAtla, Halozyme, Maverick Therapeutics, Pandion Therapeutics, Revitope, Roche, and Seattle Genetics are exploring antibody masking and/or conditional activation strategies, which could compete with our Probody Platform. We are also aware of several companies that are developing ADCs, such as AbbVie, Immunomedics, Pfizer, Roche Holding Ltd. and Takeda. In addition, two mid-sized companies, ImmunoGen and Seattle Genetics, Inc. are also leaders in the development of ADCs and we are aware of numerous small companies with ongoing efforts in this field. Furthermore, several large pharmaceutical companies, including Amgen, Novartis AG and Roche Holding Ltd., are developing T-cell engaging immunotherapies, and we are aware of several mid-sized biotech companies, such as Macrogenics and Xencor, and small companies with ongoing efforts to develop T-cell engaging immunotherapies. Any of these companies may be well-capitalized and may have significant clinical experience. In addition, these companies include our collaborators.

Many of our competitors have significantly greater financial, technical, manufacturing, marketing, sales and supply resources or experience than we do. If we successfully obtain approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our products, the ease with which our products can be administered and the extent to which patients accept relatively new routes of administration, the timing and scope of regulatory approvals for these products, the availability and cost of manufacturing, marketing and sales capabilities, price, reimbursement coverage and patent position. Competing products could present superior treatment alternatives, including by being more effective, safer, less expensive or marketed and sold more effectively than any products we may develop. Competitive products may make any products we develop less differentiated or noncompetitive before we recover the expense of developing and commercializing our product candidates. Such competitors could also recruit our employees, which could negatively impact our level of expertise and our ability to execute our business plan.

Any inability to attract and retain qualified key management and technical personnel would impair our ability to implement our business plan.

Our success largely depends on the continued service of key management, advisors and other specialized personnel, including Sean A. McCarthy, D.Phil., our president and chief executive officer, W. Michael Kavanaugh, M.D., our chief scientific officer and Amy C. Peterson, M.D., our newly appointed chief development officer. The loss of one or more members of our management team or other key employees or advisors could delay our research and development programs and have a material and adverse effect on our business, financial condition, results of operations and prospects. The relationships that our key managers have cultivated within our industry make us particularly dependent upon their continued employment with us. We are dependent on the continued service of our technical personnel because of the highly technical nature of our product candidates and technologies and the specialized nature of the regulatory approval process. Because our management team and key employees are not obligated to provide us with continued service, they could terminate their employment with us at any time without penalty. Our future success will depend in large part on our continued ability to attract and retain other highly qualified scientific, technical and management personnel, as well as personnel with expertise in clinical testing, manufacturing, governmental regulation and commercialization. We face competition for personnel from other companies, universities, public and private research institutions, government entities and other organizations, especially as job opportunities in the biotechnology industry have recently increased significantly in the San Francisco Bay Area.

If any of our product candidates are approved for marketing and commercialization and we are unable to develop sales, marketing and distribution capabilities on our own or enter into agreements with third parties to perform these functions on acceptable terms, we will be unable to commercialize successfully any such future products.

We currently have no sales, marketing or distribution capabilities or experience. If any of our product candidates is approved, we will need to develop internal sales, marketing and distribution capabilities to commercialize such products, which would be expensive and time-consuming, or enter into collaborations with third parties to perform these services. If we decide to market our products directly, we will need to commit significant financial and managerial resources to develop a marketing and sales force with technical expertise and supporting distribution, administration and compliance capabilities. If we rely on third parties with such capabilities to market our products or decide to co-promote products with collaborators, we will need to establish and maintain marketing and distribution arrangements with third parties, and there can be no assurance that we will be able to enter into such arrangements on acceptable terms or at all. In entering into third-party marketing or distribution arrangements, any revenue we receive will depend upon the efforts of the third parties and there can be no assurance that such third parties will establish adequate sales and distribution capabilities or be successful in gaining market acceptance of any approved product. If we are not successful in commercializing any product approved in the future, either on our own or through third parties, our business, financial condition, results of operations and prospects could be materially and adversely affected.

Our future growth may depend, in part, on our ability to operate in foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future growth may depend, in part, on our ability to develop and commercialize our product candidates in foreign markets for which we may rely on collaboration with third parties. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the applicable regulatory authority in that foreign market, and we may never receive such regulatory approval for any of our product candidates. 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. If we obtain approval of our product candidates and ultimately commercialize our product candidates in foreign markets, we would be subject to the risks and uncertainties, including the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements and the reduced protection of intellectual property rights in some foreign countries. We may need to rely on third parties to market, distribute and sell our products in foreign markets.

Price controls imposed in foreign markets may adversely affect our future profitability.

In some countries, particularly member states of the European Union, the pricing of prescription drugs is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. In some countries, we or future collaborators may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of our Probody therapeutic candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If reimbursement of any product candidate approved for marketing is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business, financial condition, results of operations or prospects could be materially and adversely affected. We currently do not know how the exit of the United Kingdom from the European Union will affect the pricing of prescription drugs, either in the United Kingdom or in the remaining European Union member states.

Our business entails a significant risk of product liability and our ability to obtain sufficient insurance coverage could have a material and adverse effect on our business, financial condition, results of operations and prospects.

We are exposed to significant product liability risks inherent in the development, testing, manufacturing and marketing of therapeutic treatments, including as a result of the clinical testing of CX-072, CX-2009, CX-2029, BMS-986249 and any of our other product candidates or those of our collaborators. Product liability claims could delay or prevent completion of our development programs. If we succeed in marketing product candidates, such claims could result in an FDA investigation of the safety and effectiveness of our product candidates, our manufacturing processes and facilities (or the manufacturing processes and facilities of our third-party manufacturers) or our marketing programs and potentially a recall of our products or more serious enforcement action, limitations on the approved indications for which they may be used or suspension or withdrawal of approvals. Regardless of the merits or eventual outcome, liability claims may also result in decreased demand for our products, injury to our reputation, costs to defend the related litigation, a diversion of management's time and our resources, substantial monetary awards to trial participants or patients and a decline in our stock price. We currently have insurance that we believe is appropriate for our stage of development and may need to obtain higher levels of insurance prior to marketing any of our product candidates. Any insurance we have or may obtain may not provide sufficient coverage against potential liabilities. Furthermore, clinical trial and product liability insurance is becoming increasingly expensive. As a result, we may be unable to obtain sufficient insurance at a reasonable cost to protect us against losses caused by product liability claims that could have a material and adverse effect on our business, financial condition, results of operations and prospects.

Our employees and independent contractors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk of fraud or other misconduct by our employees or independent contractors. Misconduct by these parties could include intentional failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we may establish, comply with federal and state data privacy, security, fraud and abuse, and other healthcare laws and regulations, 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. Activities subject to these laws could also involve the improper use or misrepresentation of information obtained in the course of clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a material and adverse effect on our business, financial condition, results of operations and prospects, including the imposition of significant fines or other sanctions.

Our information technology systems, or those of our CROs or other contractors or consultants we may utilize, may fail, suffer disruptions or suffer security breaches, which could result in a material disruption of our product development programs.

Our information technology and other internal infrastructure systems and those of our CROs and contractors and consultants, including corporate firewalls, servers, leased lines and connection to the Internet, face the risk of systemic failure and may be vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Such events could cause interruptions of our operations. For instance, the loss of data from any current or future clinical trial or data from any preclinical studies involving our product candidates could result in delays in our development and regulatory filing efforts and significantly increase our costs. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data, or inappropriate disclosure of confidential or proprietary information, we could incur liability, recovery of our data could take a prolonged period of time, and the development of our research or product candidates could be delayed.

Cybersecurity breaches and other disruptions could compromise our information, including the theft of our intellectual property, and could expose us to liability, which could cause our business and reputation to suffer.

We are increasingly dependent on information technology systems and infrastructure, including mobile technologies, to operate our business. In the ordinary course of our business, we collect and store confidential and sensitive electronic information on our networks and in our data centers. This information includes, among other things, our intellectual property and proprietary information, the confidential information of our collaborators and licensees, and the personally identifiable information of our employees. It is important to our operations and business strategy that this electronic information remains secure and is perceived to be secure. The size and complexity of our information technology systems, and those of third-party vendors with whom we contract, and the volume of data we retain, make such systems potentially vulnerable to breakdown, malicious intrusion, security breaches and other cyber-attacks. Information security risks have significantly increased in recent years in part due to the proliferation of new technologies and

the increased sophistication and activities of organized crime, hackers, terrorists and other external parties, including foreign private parties and state actors. A security breach or privacy violation that leads to disclosure or modification of or prevents access to personally identifiable information or other protected 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. Similarly, 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. Additionally, theft of our intellectual property or proprietary business information could require substantial expenditures to remedy. If we are unable to prevent such 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. 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. Moreover, the prevalent use of mobile devices that access confidential information increases the risk of data security breaches, which could lead to the loss of confidential information, trade secrets or other intellectual property. As cyber threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. While we have implemented security measures to protect our data security and information technology systems, such measures may not prevent such events. Significant disruptions of our information technology systems or breaches of data security could have a material adverse effect on our business, financial condition and results of operations.

If we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.

Our research and development activities involve the use of hazardous materials and various chemicals. We maintain quantities of various flammable and toxic chemicals in our facilities in South San Francisco, California that are required for our research and development activities. We are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. We believe our procedures for storing, handling and disposing these materials in our South San Francisco facilities comply with the relevant guidelines of South San Francisco, the state of California and the Occupational Safety and Health Administration of the U.S. Department of Labor. Although we believe that our safety procedures for handling and disposing of these materials comply with the standards mandated by applicable regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of animals and biohazardous materials. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of these materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological or hazardous materials. Additional federal, state and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

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

Our current operations are located in our facilities in South San Francisco, California. Any unplanned event, such as flood, fire, explosion, earthquake, extreme weather condition, medical epidemics, power shortage, telecommunication failure or other natural or manmade accidents or incidents that result in us being unable to fully utilize our facilities, or the manufacturing facilities of our third-party contract manufacturers, may have a material and adverse effect on our ability to operate our business, particularly on a daily basis, and have significant negative consequences on our financial and operating conditions. Loss of access to these facilities may result in increased costs, delays in the development of our product candidates or interruption of our business operations. Earthquakes or other natural disasters could further disrupt our operations and have a material and adverse effect on our business, financial condition, results of operations and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our research facilities or the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible, for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, could have a material and adverse effect on our business. As part of our risk management policy, we maintain insurance coverage at levels that we believe are appropriate for our business. However, in the event of an accident or incident at these facilities, we cannot assure you that the amounts of insurance will be sufficient to satisfy any damages and losses. If our facilities, or the manufacturing facilities of our third-party contract manufacturers, are unable to operate because of an accident or incident or for any other reason, even for a short period of time, any or all of our research and development programs may be harmed. Any business interruption may have a material and adverse effect on our business, financial condition, results of operations and prospects.

Our reported financial results may be adversely affected by changes in accounting principles generally accepted in the U.S.

We prepare our financial statements in conformity with accounting principles generally accepted in the U.S. These accounting principles are subject to interpretation by the Financial Accounting Standards Board ("FASB") and the SEC. A change in these policies or interpretations could have a significant effect on our reported financial results, may retroactively affect previously reported results, could cause unexpected financial reporting fluctuations, and may require us to make costly changes to our operational processes and accounting systems. For example, in May 2014, the FASB issued Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The ASU replaced most existing revenue recognition guidance in the U.S. GAAP when it became effective. The new standard was effective at the beginning of our fiscal year 2018 with early adoption permitted for our fiscal year 2017. We evaluated the impact of ASU 2014-09 on our financial statements and adoption of the standard had a significant impact on our financial statements and retroactively affected the accounting treatment of transactions completed before adoption. Additionally, for the purpose of revenue recognition, we are required to estimate research service periods as well as the related cost to completion, of our research development program. Such estimates are inherently uncertain and may result in changes in estimates to financial statements in subsequent periods.

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "IRC"), if a corporation undergoes an "ownership change" (generally defined as a greater than 50 percentage points change (by value) in the ownership of its equity over a rolling three-year period), the corporation's ability to use its pre-change net operating loss carryforwards and certain other pre-change tax attributes to offset its post-change income and taxes may be limited. California has similar rules. For example, we performed an IRC Section 382 analysis in 2017 and determined there was an ownership change that resulted in Section 382 limitations. The ownership change limited our ability to utilize net operating losses against taxable income in 2018 for both federal and California tax purposes. The remaining net operating losses and credit will be available in future years before expiration during their respective carryforward periods. We may experience ownership changes in the future as a result of shifts in our stock ownership, some of which are outside our control, and our ability to utilize net operating loss carryforwards could be limited by an "ownership change" as described above, which could result in additional increased tax liability to the Company.

Changes in U.S. or foreign tax laws or regulations that are applied adversely to us may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business and financial condition. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act (the "Tax Act"), enacted many significant changes to the U.S. tax laws. Future guidance from the Internal Revenue Service and other tax authorities with respect to the Tax Act may affect us, and certain aspects of the Tax Act could be repealed or modified in future legislation. In addition, it is uncertain if and to what extent various states will conform to the Tax Act or any newly enacted federal tax legislation. Changes in corporate tax rates, the realization of net deferred tax assets relating to our operations, the taxation of foreign earnings, and the deductibility of expenses under the Tax Act or future reform legislation could have a material impact on the value of our deferred tax assets, could result in significant one-time charges, and could increase our future tax expense. Recent presidential candidate proposals for U.S. tax legislation could have a material adverse effect on our future business, financial condition and results of operations.

Risks Related to Intellectual Property

If we are not able to obtain and enforce patent protection for our technologies or product candidates, development and commercialization of our product candidates may be adversely affected.

Our success depends in part on our ability to obtain and maintain patents and other forms of intellectual property rights, including in-licenses of intellectual property rights of others, for our product candidates, methods used to manufacture our product candidates and methods for treating patients using our product candidates, as well as our ability to preserve our trade secrets, to prevent third parties from infringing upon our proprietary rights and to operate without infringing upon the proprietary rights of others. We have a substantial number of issued patents and pending patent applications, some of which are co-owned with a third party, covering our Probody platforms and products as well as methods of use and production thereof; we have exclusively licensed UCSB's interest in the patent family co-owned with UCSB that covers Probody and other pro-protein technology in the fields of therapeutics, *in vivo* diagnostics and prophylactics. In addition, we have exclusively licensed a patent portfolio of three patent families from UCSB that includes patents and patent applications that cover compositions and methods related to the screening for and identification of the masks and protease-cleavable linkers that we incorporate into our Probody candidates. We may not be able to apply for patents on certain aspects of our product candidates in a timely fashion or at all. Our existing issued and granted patents and any future patents

we obtain may not be sufficiently broad to prevent others from using our technology or from developing competing products and technology. There is no guarantee that any of our pending patent applications will result in issued or granted patents, that any of our issued or granted patents will not later be found to be invalid or unenforceable or that any issued or granted patents will include claims that are sufficiently broad to cover our product candidates or to provide meaningful protection from our competitors. Moreover, the patent position of biotechnology and biopharmaceutical companies can be highly uncertain because it involves complex legal and factual questions. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our current and future proprietary technology and product candidates are covered by valid and enforceable patents or are effectively maintained as trade secrets. If third parties disclose or misappropriate our proprietary rights, it may materially and adversely affect our position in the market.

The U.S. Patent and Trademark Office ("USPTO") and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case. The standards applied by the USPTO and foreign patent offices in granting patents are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in biotechnology and biopharmaceutical patents. As such, we do not know the degree of future protection that we will have on our proprietary products and technology. While we will endeavor to try to protect our product candidates with intellectual property rights such as patents, as appropriate, the process of obtaining patents is time-consuming, expensive and sometimes unpredictable.

In addition, there are numerous recent changes to the patent laws and proposed changes to the rules of the USPTO that may have a significant impact on our ability to protect our technology and enforce our intellectual property rights. For example, the America Invents Act ("AIA") enacted within the last several years involves significant changes in patent legislation. The Supreme Court has ruled on several patent cases in recent years, some of which cases either narrow the scope of patent protection available in certain circumstances or weaken the rights of patent owners in certain situations. The recent decision by the Supreme Court in *Association for Molecular Pathology v. Myriad Genetics, Inc*. precludes a claim to a nucleic acid having a stated nucleotide sequence that is identical to a sequence found in nature and has not been modified. We currently are not aware of an immediate impact of this decision on our patents or patent applications because we are developing product candidates that contain modifications, such as our Probody substrates and masks, that we believe are not found in nature. However, this decision has yet to be clearly interpreted by courts and by the USPTO. We cannot assure you that the interpretations of this decision or subsequent rulings will not adversely impact our patents or patent applications. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

Once granted, patents may remain open to opposition, interference, re-examination, post-grant review, inter parties review, nullification or derivation action in court or before patent offices or similar proceedings for a given period after allowance or grant, during which time third parties can raise objections against such initial grant. In the course of such proceedings, which may continue for a protracted period of time, the patent owner may be compelled to limit the scope of the allowed or granted claims thus attacked, or may lose the allowed or granted claims altogether. In addition, there can be no assurance that:

- Others will not or may not be able to make, use or sell compounds that are the same as or similar to our product candidates but that are not covered by the claims of the patents that we own or license.
- We or our licensors, or our collaborators are the first to make the inventions covered by each of our issued patents and pending patent applications that we own or license.
- We or our licensors, or our collaborators are the first to file patent applications covering certain aspects of our inventions.
- Others will not independently develop similar or alternative technologies or duplicate any of our technologies without infringing, misappropriating or otherwise violating our intellectual property rights.
- A third party may not challenge our patents and, if challenged, a court would hold that our patents are valid, enforceable and infringed.
- Any issued patents that we own or have licensed will provide us with any competitive advantages, or will not be challenged by third parties.
- We may develop additional proprietary technologies that are patentable.

- The patents of others will not have a material or adverse effect on our business, financial condition, results of operations and prospects.
- Our competitors do not conduct research and development activities in countries where we do not have enforceable patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets.

Other companies or organizations may challenge our or our licensors' patent rights or may assert patent rights that prevent us from developing and commercializing our products.

Probody therapeutics are a relatively new scientific field. We have obtained grants and issuances of Probody therapeutic patents and have licensed one patent family comprising several of these patents from a third party on an exclusive basis for therapeutics applications. The issued patents and pending patent applications in the United States and in key markets around the world that we own or license claim many different methods, compositions and processes relating to the discovery, development, manufacture and commercialization of antibody and immunoregulatory therapeutics. Specifically, we own and have licensed a portfolio of patents, patent applications and other intellectual property covering Probody compositions of matter as well as their methods of manufacturing and use.

As the field of antibody and immunoregulatory therapeutics matures, patent applications are being processed by national patent offices around the world. There is uncertainty about which patents will issue, and, if they do, as to when, to whom, and with what claims. In addition, third parties may attempt to invalidate our intellectual property rights. Even if our rights are not directly challenged, disputes could lead to the weakening of our intellectual property rights. Our defense against any attempt by third parties to circumvent or invalidate our intellectual property rights could be costly to us, could require significant time and attention of our management and could have a material and adverse effect on our business, financial condition, results of operations and prospects or our ability to successfully compete.

There are many issued and pending patents that claim aspects of our product candidates and modifications that we may need to apply to our product candidates. There are also many issued patents that claim antibodies or portions of antibodies that may be relevant for Probody products we wish to develop. Thus, it is possible that one or more organizations will hold patent rights to which we will need a license. If those organizations refuse to grant us a license to such patent rights on reasonable terms, we may not be able to market products or perform research and development or other activities covered by these patents.

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

Obtaining a valid and enforceable issued or granted patent covering our technology in the U.S. and worldwide can be extremely costly. In jurisdictions where we have not obtained patent protection, competitors may use our technology to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but where it is more difficult to enforce a patent as compared to the U.S. Competitor products may compete with our future products in jurisdictions where we do not have issued or granted patents or where our issued or granted patent claims or other intellectual property rights are not sufficient to prevent competitor activities in these jurisdictions. The legal systems of certain countries, particularly certain developing countries, make it difficult to enforce patents and such countries may not recognize other types of intellectual property protection, particularly that relating to biopharmaceuticals. This could make it difficult for us to prevent the infringement of our patents or marketing of competing products in violation of our proprietary rights generally in certain jurisdictions. 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.

We generally file a provisional patent application first (a priority filing) at the USPTO. An international application under the Patent Cooperation Treaty ("PCT") is usually filed within twelve months after the priority filing. Based on the PCT filing, national and regional patent applications may be filed in the United States, Europe, Japan, Australia and Canada and, depending on the individual case, also in any or all of, *inter alia*, Brazil, China, Hong Kong, India, Indonesia, Israel, Malaysia, Mexico, New Zealand, Russia or Eurasian Patent Organization, Singapore, South Africa, South Korea and other jurisdictions. We have so far not filed for patent protection in all national and regional jurisdictions where such protection may be available. In addition, we may decide to abandon national and regional patent applications before grant. Finally, the grant proceeding of each national or regional patent is an independent proceeding which may lead to situations in which applications might in some jurisdictions be refused by the relevant registration authorities, while granted by others. It is also quite common that depending on the country, various scopes of patent protection may be granted on the same product candidate or technology.

The laws of some jurisdictions do not protect intellectual property rights to the same extent as the laws in the U.S., and many companies have encountered significant difficulties in protecting and defending such rights in such jurisdictions. If we or our licensors encounter difficulties in protecting, or are otherwise precluded from effectively protecting, the intellectual property rights important for our business in such jurisdictions, the value of these rights may be diminished and we may face additional competition from others in those jurisdictions. Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position in the relevant jurisdiction may be impaired and our business and results of operations may be adversely affected.

We or our licensors, or any future strategic partners may become subject to third party claims or litigation alleging infringement of patents or other proprietary rights or seeking to invalidate patents or other proprietary rights, and we may need to resort to litigation to protect or enforce our patents or other proprietary rights, all of which could be costly, time consuming, delay or prevent the development and commercialization of our product candidates, or put our patents and other proprietary rights at risk.

We or our licensors, or any future strategic partners may be subject to third-party claims for infringement or misappropriation of patent or other proprietary rights. We are generally obligated under our license or collaboration agreements to indemnify and hold harmless our licensors or collaborators for damages arising from intellectual property infringement by us. If we or our licensors, or any future strategic partners are found to infringe a third-party patent or other intellectual property rights, we could be required to pay damages, potentially including treble damages, if we are found to have willfully infringed. In addition, we or our licensors, or any future strategic partners may choose to seek, or be required to seek, a license from a third party, which may not be available on acceptable terms, if at all. Even if a license can be obtained on acceptable terms, the rights may be non-exclusive, which could give our competitors access to the same technology or intellectual property rights licensed to us. If we fail to obtain a required license, we or our collaborators may be unable to effectively market product candidates based on our technology, which could limit our ability to generate revenue or achieve profitability and possibly prevent us from generating revenue sufficient to sustain our operations. In addition, we may find it necessary to pursue claims or initiate lawsuits to protect or enforce our patent or other intellectual property rights. The cost to us in defending or initiating any litigation or other proceeding relating to patent or other proprietary rights, even if resolved in our favor, could be substantial, and litigation would divert our management's attention. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could delay our research and development efforts and limit our ability to continue our operations.

If we were to initiate legal proceedings against a third party to enforce a patent covering one of our products or our technology, the defendant could counterclaim that our patent is invalid or unenforceable. In patent litigation in the U.S., defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. The outcome following legal assertions of invalidity and unenforceability during patent litigation is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on one or more of our products or certain aspects of our platform technology. Such a loss of patent protection could have a material and adverse effect on our business, financial condition, results of operations and prospects. Patents and other intellectual property rights also will not protect our technology if competitors design around our protected technology without legally infringing, misappropriating or otherwise violating our patents or other intellectual property rights.

Intellectual property rights of third parties could adversely affect our ability to commercialize our product candidates, and we might be required to litigate or obtain licenses from third parties in order to develop or market our product candidates. Such litigation or licenses could be costly or not available on commercially reasonable terms.

Because the antibody landscape is still evolving, including the masked antibody landscape, it is difficult to conclusively assess our freedom to operate without infringing on third-party rights. There are numerous companies that have pending patent applications and issued patents broadly covering antibodies generally or covering antibodies directed against the same targets as, or targets similar to, those we are pursuing. There are many issued patents and patent applications covering antibodies targeted against PD-1 and PD-L1, and the intellectual property covering PD-1 and PD-L1 antibodies has been the subject of litigation and licensing, especially regarding how broadly certain claims should be construed. If the claims were to be construed broadly by the courts, we may need to obtain a license to some of such intellectual property, covering PD-1 and/or PD-L1 antibodies, which would decrease the profits we would realize from the sale of such products. An increasing number of third parties are filing masked antibody patent applications, several of which contain claims that are patterned after our own patent claims. Our competitive position may suffer if patents issued to third

parties or other third-party intellectual property rights cover our products or product candidates or elements thereof, or our manufacture or uses relevant to our development plans. In such cases, we may not be in a position to develop or commercialize products or product candidates unless we successfully pursue litigation to nullify or invalidate the third-party intellectual property right concerned, or enter into a license agreement with the intellectual property right holder, if available on commercially reasonable terms. There may be issued patents of which we are not aware, held by third parties that, if found to be valid and enforceable, could be alleged to be infringed by our Probody therapeutic technologies. There also may be pending patent applications of which we are not aware that may result in issued patents, which could be alleged to be infringed by our Probody therapeutic technologies. If such an infringement claim should be brought and be successful, we may be required to pay substantial damages, be forced to abandon our product candidates or seek a license from any patent holders. No assurances can be given that a license will be available on commercially reasonable terms, if at all.

It is also possible that we have failed to identify relevant third-party patents or applications. For example, U.S. applications filed before November 29, 2000 and certain U.S. applications filed after that date that will not be filed outside the U.S. remain confidential until patents issue. Patent applications in the U.S. and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our products or platform technology could have been filed by others without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our platform technologies, our products or the use of our products. Third-party intellectual property right holders may also actively bring infringement claims against us. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we are unable to successfully settle future claims on terms acceptable to us, we may be required to engage in or continue costly, unpredictable and time-consuming litigation and may be prevented from or experience substantial delays in marketing our products. If we fail in any such dispute, in addition to being forced to pay damages, we may be temporarily or permanently prohibited from commercializing any of our product candidates that are held to be infringing. We might, if possible, also be forced to redesign product candidates so that we no longer infringe the third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Litigation or other legal proceedings relating to intellectual property claims, with or without merit, is unpredictable and generally expensive and time consuming and is likely to divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities.

We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon, misappropriating or otherwise violating or from successfully challenging our intellectual property rights. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material and adverse effect on our ability to compete in the marketplace.

If we fail to comply with our obligations under any license, collaboration or other agreements, we may be required to pay damages and could lose our rights to intellectual property rights that are necessary for developing and protecting our product candidates or we could lose certain rights to grant sublicenses.

Our licenses from Amgen, ImmunoGen and UCSB impose, and any future licenses we enter into are likely to impose, various development, commercialization, funding, diligence, sublicensing, insurance, patent prosecution and enforcement and/or other obligations on us, including various payment obligations such as milestone and royalty payments and payments based on sublicensing revenues. Our rights under our agreements with our licensors or collaborators may be limited or modified according to their terms. Additionally, if we breach any of these obligations, or use the intellectual property licensed to us in an unauthorized manner, we may be required to pay damages and the licensor may have the right to terminate the license, which could result in us being unable to develop, manufacture and sell products that are covered by the licensed technology or enable a competitor to gain access to the licensed technology. Moreover, our licensors and collaborators may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing, misappropriating or otherwise

violating the licensor's rights. In addition, while we cannot currently determine the amount of the royalty or sublicense revenue payment obligations we would be required to pay on development or sales of future products, if any, the amounts may be significant. The amount of our future royalty or sublicense revenue payment obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

Our intellectual property agreements with our licensors, collaborators and third parties may be subject to disagreements over contract interpretation, which could narrow the scope of, or result in termination of, our rights to the relevant intellectual property or technology or increase our financial or other obligations to such third parties.

Certain provisions in our intellectual property agreements may be susceptible to multiple interpretations. For example, we may disagree with our licensors or collaborators regarding whether, when and to what extent various obligations under these agreements apply to certain of our product candidates and products, including various payment, development, commercialization, funding, diligence, sublicensing, insurance, patent prosecution and enforcement and/or other obligations. The resolution of any contract interpretation disagreement that may arise could affect the scope of our rights to the relevant intellectual property or technology, or affect financial or other obligations under the relevant agreement. In either case, such disagreement could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact conceives or develops intellectual property that we regard as our own. Our assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property.

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

In addition to seeking patent protection for certain aspects of our product candidates, we also consider trade secrets, including confidential and unpatented know-how, important to the maintenance of our competitive position. We protect trade secrets and confidential and unpatented know-how, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to such knowledge, such as our employees, corporate collaborators, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants that obligate them to maintain confidentiality and assign their inventions to us.

Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts in the U.S. and certain foreign jurisdictions are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

We may be subject to claims that we or our employees or consultants have wrongfully used or disclosed alleged trade secrets of our employees' or consultants' former employers or their clients. These claims may be costly to defend and if we do not successfully do so, we may be required to pay monetary damages and may lose valuable intellectual property rights or personnel.

Many of our employees were previously employed at universities or biotechnology or biopharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key research personnel or their work product could hamper our ability to commercialize, or prevent us from commercializing, our product candidates, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

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

Our trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected.

Risks Related to Government Regulation

We may be unable to obtain or be delayed in obtaining U.S. or foreign regulatory approval and, as a result, be unable or delayed in being able to commercialize our product candidates.

Our product candidates that we are currently developing are regulated as therapeutic biologics that are subject to requirements for review and approval of a BLA by the FDA's Center for Drug Evaluation and Research ("CDER"). Therefore, our product candidates are subject to extensive governmental regulations relating to, among other things, research, testing, development, manufacturing, safety, efficacy, approval, recordkeeping, reporting, labeling, storage, packaging, advertising and promotion, pricing, marketing and distribution of drugs and therapeutic biologics. Rigorous preclinical testing and clinical trials and an extensive regulatory approval process are required to be successfully completed in the U.S. and in many foreign jurisdictions before a new drug or therapeutic biologic can be marketed. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. It is possible that none of the product candidates we may develop will obtain the regulatory approvals necessary for us or our existing or future collaborators to begin selling them.

As a company, we have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA. The time required to obtain FDA and other approvals is unpredictable but typically takes many years following the commencement of clinical trials, depending upon the type, complexity and novelty of the product candidate. The standards that the FDA and its foreign counterparts use when regulating us require judgment and can change, which makes it difficult to predict with certainty how they will be applied. Any analysis we perform of data from preclinical and clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent regulatory approval. We may also encounter unexpected delays or increased costs due to new government regulations, for example, from future legislation or administrative action, or from changes in FDA policy during the period of product development, clinical trials and FDA regulatory review. Further, government shutdowns, such as the partial U.S. federal government shutdown in late 2018 or the uncertain impact of the United Kingdom's departure from the European Union may impact our ability to access government agencies in a timely manner or otherwise impact our ability to move our product candidates through the regulatory process. It is impossible to predict whether legislative changes will be enacted, or whether FDA or foreign regulations, guidance or interpretations will be changed, or what the impact of such changes, if any, may be.

Moreover, the FDA may respond to our submissions by defining requirements we may not have anticipated. Such responses could lead to significant delays in the clinical development of our product candidates. In addition, because there may be approved treatments for some of the diseases for which we may seek approval, in order to receive regulatory approval, we may need to demonstrate through clinical trials that the product candidates we develop to treat these diseases, if any, are not only safe and effective, but safer or more effective than existing products. Furthermore, in recent years, there has been increased public and political pressure on the FDA with respect to the approval process for new drugs and therapeutic biologics, and the FDA's standards, especially regarding product safety, appear to have become more stringent.

Any delay or failure in obtaining required approvals could have a material and adverse effect on our ability to generate revenues from the particular product candidate for which we are seeking approval. Furthermore, any regulatory approval to market a product may be subject to limitations on the approved uses for which we may market the product or the labeling or other restrictions. In addition, the FDA has the authority to require a REMS as part of a BLA or after approval, which may impose further requirements or restrictions on the distribution or use of an approved drug or biologic, such as limiting prescribing to certain physicians or medical centers that have undergone specialized training, limiting treatment to patients who meet certain safe-use criteria and requiring treated patients to enroll in a registry. These limitations and restrictions may limit the size of the market for the product and affect reimbursement by third-party payors.

We are also subject to numerous foreign regulatory requirements governing, among other things, the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement. The foreign regulatory approval process varies among countries and may include all of the risks associated with FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions. Moreover, the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities outside the U.S. and vice versa.

Even if we receive regulatory approval for any of our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to 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.

Any regulatory approvals that we or our collaborators obtain for our product candidates may also be subject to limitations on the approved indicated uses for which a product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including "Phase 4" 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, import, export, 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 good clinical practices for any clinical trials that we conduct post-approval. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market or voluntary or mandatory product recalls;
- 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 our strategic partners;
- 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 and we may not achieve or sustain profitability, which would adversely affect our business.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the U.S. government may impact our business and industry. For example, the Executive Branch of the U.S. government has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

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

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (together, the "ACA"), was passed, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA, among other things, subjected therapeutic biologics to potential competition by lower-cost biosimilars, addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs and therapeutic biologics that are inhaled, infused, instilled, implanted or injected, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations, established annual fees and taxes on manufacturers of certain branded prescription drugs and therapeutic biologics, and created a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts, which, through subsequent legislative amendments, will be increased to 70% starting in 2019, off negotiated prices of applicable brand drugs and therapeutic biologics to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs and therapeutic biologics to be covered under Medicare Part D.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. By way of example, the Tax Cuts and Jobs Act of 2017 includes a provision repealing the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, ruled that the individual mandate is a critical and inseverable feature of the ACA, and therefore, because it was repealed as part of the Tax Cuts and Jobs Act, the remaining provisions of the ACA are invalid as well. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court's decision that the individual mandate was unconstitutional but remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. It is unclear how these decisions, subsequent appeals, and other efforts to challenge, repeal, or replace the ACA will impact the ACA or our business or financial condition. In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted to reduce healthcare expenditures. The Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2029 unless additional Congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. If federal spending is further reduced, anticipated budgetary shortfalls may also impact the ability of relevant agencies, such as the FDA or the National Institutes of Health to continue to function at current levels. Amounts allocated to federal grants and contracts may be reduced or eliminated. These reductions may also impact the ability of relevant agencies to timely review and approve research and development, manufacturing, and marketing activities, which may delay our ability to develop, market and sell any products we may develop.

Moreover, payment methodologies, including payment for companion diagnostics, may be subject to changes in healthcare legislation and regulatory initiatives. For example, the Centers for Medicare & Medicaid Services ("CMS") has begun bundling the Medicare payments for certain laboratory tests ordered while a patient received services in a hospital outpatient setting. Additionally, CMS significantly altered the payment methodology under the Medicare Clinical Laboratory Fee Schedule (CLFS). Effective 2018, the CFLS is based on a weighted average of reported prices that private payors, Medicare Advantage plans, and Medicaid Managed Care plans pay for laboratory services. Further, in March 2018, CMS finalized a national coverage determination extending coverage under the Medicare program for certain diagnostic laboratory tests using next generation sequencing ("NGS") that are approved by the FDA as a companion *in vitro* diagnostic and used in a cancer with an FDA-approved companion diagnostic indication. Under the national coverage determination, diagnostic tests that meet these criteria are covered only in patients with recurrent, metastatic, relapsed, refractory or stages III or IV cancer if the test has an FDA-approved or cleared indication for use in that patient's cancer and results are provided to the treating physician for management of the patient using a report template to specify treatment options. Although the Medicare program increasingly is used as a model for how private payors and other governmental payors develop their coverage and reimbursement policies, it is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for any companion diagnostics associated with our product candidates.

In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, the 21st Century Cures Act changed the reimbursement methodology for infusion drugs and biologics furnished through durable medical equipment in an attempt to remedy over- and underpayment of certain products. Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or companion diagnostics or additional pricing pressures.

Furthermore, certain candidates for the U.S. Presidential race in 2020 have promoted substantial changes to the healthcare system and drug pricing rules. If some of these changes were implemented, it could have a materially adverse impact on the ability of biotechnology and pharmaceutical companies, like us, to obtain capital to further their research or develop their product candidates and could make it economically unfeasible for such companies to continue to develop needed new innovative therapies.

If we or our collaborators, manufacturers or service providers fail to comply with healthcare laws and regulations, we or they could be subject to enforcement actions, which could affect our ability to develop, market and sell our products and may harm our reputation.

Although we do not currently have any products on the market, once we begin commercializing our product candidates, we will be subject to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our product candidates for which we obtain marketing approval. In addition, we may be subject to patient data privacy and security regulation by both the U.S. federal government and the states in which we conduct our business. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the U.S. federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind to induce or reward either the referral of an individual for, or the purchase, or order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the U.S. federal False Claims Act, which imposes criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent, knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim, or from knowingly making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- the U.S. federal Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services; similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (“HITECH”), which imposes obligations on certain covered entity healthcare providers, health plans, and healthcare clearinghouse as well as their business associates that perform certain services involving the use or disclosure of individually identifiable health information, including mandatory contractual terms, with respect to safeguarding the privacy, security, and transmission of individually identifiable health information, and require notification to affected individuals and regulatory authorities of certain breaches of security of individually identifiable health information;
- the U.S. federal legislation commonly referred to as Physician Payments Sunshine Act, enacted as part of the ACA, and its implementing regulations, which requires certain manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children’s Health Insurance Program to report annually to the CMS information related to certain payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), teaching hospitals and, beginning in 2022, certain other health care professionals, as well as ownership and investment interests held by the physicians described above and their immediate family members; and
- analogous state laws and regulations, such as state anti-kickback and false claims laws that may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry’s voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug and therapeutic biologics manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and pricing information; 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 often are not preempted by HIPAA, thus complicating compliance efforts.

Ensuring that our future business arrangements with third-parties comply with applicable healthcare laws and regulations could involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any such requirements, we may be subject to penalties, including civil or criminal penalties, monetary damages, the curtailment or restructuring of our operations, loss of eligibility to obtain approvals from the FDA, or exclusion from participation in government contracting, healthcare reimbursement or other government programs, including Medicare and Medicaid, any of which could adversely our financial results. Although effective compliance programs can mitigate the risk of investigation and prosecution for violations of these laws, these risks cannot be entirely eliminated. Any action against us for an alleged or suspected violation could cause us to incur significant legal expenses and could divert our management's attention from the operation of our business, even if our defense is successful. In addition, achieving and sustaining compliance with applicable laws and regulations may be costly to us in terms of money, time and resources.

If we or future collaborators, manufacturers or service providers fail to comply with applicable federal, state or foreign laws or regulations, we could be subject to enforcement actions, which could affect our ability to develop, market and sell our products successfully and could harm our reputation and lead to reduced acceptance of our products by the market. These enforcement actions include, among others:

- adverse regulatory inspection findings;
- warning letters;
- voluntary or mandatory product recalls or public notification or medical product safety alerts to healthcare professionals;
- restrictions on, or prohibitions against, marketing our products;
- restrictions on, or prohibitions against, importation or exportation of our products;
- suspension of review or refusal to approve pending applications or supplements to approved applications;
- exclusion from participation in government-funded healthcare programs;
- exclusion from eligibility for the award of government contracts for our products;
- suspension or withdrawal of product approvals;
- seizures or administrative detention of products;
- injunctions; and
- civil and criminal penalties and fines.

If we fail to comply with U.S. and foreign regulatory requirements, regulatory authorities could limit or withdraw any marketing or commercialization approvals we may receive and subject us to other penalties that could materially harm our business.

Even if we receive marketing and commercialization approval of a product candidate, we will be subject to continuing regulatory requirements, including in relation to adverse patient experiences with the product and clinical results that are reported after a product is made commercially available, both in the U.S. and any foreign jurisdiction in which we seek regulatory approval. The FDA has significant post-market authority, including the authority to require labeling changes based on new safety information and to require post-market studies or clinical trials to evaluate safety risks related to the use of a product or to require withdrawal of the product from the market. The FDA also has the authority to require a REMS plan after approval, which may impose further requirements or restrictions on the distribution or use of an approved drug or therapeutic biologic. The manufacturer and manufacturing facilities we use to make a future product, if any, will also be subject to periodic review and inspection by the FDA and other regulatory agencies, including for continued compliance with cGMP requirements. The discovery of any new or previously unknown problems with our third-party manufacturers, manufacturing processes or facilities may result in restrictions on the product, manufacturer or facility, including withdrawal of the product from the market. If we rely on third-party manufacturers, we will not have control over compliance with applicable rules and regulations by such manufacturers. Any product promotion and advertising will also be subject to regulatory requirements and continuing regulatory review. If we or our collaborators, manufacturers or service providers fail to comply with applicable continuing regulatory requirements in the U.S. or foreign jurisdictions in which we seek to market our products, we or they may be subject to, among other things, fines, warning letters, holds on clinical trials, delay of approval or refusal by the FDA to approve pending applications or supplements to approved applications, suspension or withdrawal of regulatory approval, product recalls and seizures, administrative detention of products, refusal to permit the import or export of products, operating restrictions, injunction, civil penalties and criminal prosecution.

We face regulation and potential liability related to the privacy, data protection and information security which may require significant resources and may adversely affect our business, operations and financial performance.

The regulatory environment surrounding information security, data collection and privacy is increasingly demanding. We are subject to numerous U.S. federal and state laws and non-U.S. regulations governing the protection of personal and confidential information of our clinical subjects, clinical investigators, employees and vendors/business contacts, including in relation to medical records, credit card data and financial information. For example, on May 25, 2018, the European General Data Protection Regulation, or GDPR, became effective, implementing more stringent requirements in relation to our use of personal data relating to individuals located in the E.U. (and E.E.A.). The GDPR repeals the Data Protection Directive (95/46/EC) and is directly applicable in all E.U. member states. The GDPR significantly increased fining levels to up to 4% total worldwide annual turnover or up to €20 million (whichever is higher) for non-compliance with its requirements. We will be subject to the GDPR where we have an E.U. presence or "establishment" (*e.g.*, E.U. based subsidiary or operations), when conducting clinical trials with E.U. based data subjects (whether the trials are conducted directly by us or through a clinical vendor or collaborator) or offering approved products or services (if relevant) to E.U. based data subjects (regardless of whether involving our E.U. based subsidiary or operations).

The GDPR sets out a number of requirements that must be complied with when handling the personal data of such E.U. based data subjects including: providing expanded disclosures about how their personal data will be used; higher standards for organizations to demonstrate that they have obtained valid consent or have another legal basis in place to justify their data processing activities; the obligation to appoint data protection officers in certain circumstances; new rights for individuals to be "forgotten" and rights to data portability, as well as enhanced current rights (e.g., access requests); the principal of accountability and demonstrating compliance through policies, procedures, training and audit; the new mandatory data breach regime. In particular, medical or health data, genetic data and biometric data where the latter is used to uniquely identify an individual (even, in certain situations, where such data is key coded) are all classified as "special category" data under GDPR and afford greater protection and require additional compliance obligations. Further, E.U. member states have a broad right to impose additional conditions – including restrictions – on these data categories. This is because the GDPR allows E.U. member states to derogate from the requirements of the GDPR mainly in regard to specific processing situations (including special category data and processing for scientific or statistical purposes). As the E.U. member states reframe their national legislation to harmonize with the GDPR, we will need to monitor compliance with all relevant E.U. member states' laws and regulations, including where permitted derogations from the GDPR are introduced.

We will also be subject to evolving E.U. laws on data export, where we transfer data outside the E.U. (or E.E.A.) to group companies or third parties. The GDPR only permits exports of data outside the E.U. (and E.E.A.) where there is a suitable data transfer solution in place to safeguard personal data (e.g., the EU Commission approved Standard Contractual Clauses). Some of the approved current data transfer mechanisms are under review in the E.U. courts and by the E.U. Commission and therefore we need to monitor this space for any future changes.

Where we rely on third parties to carry out a number of services for us, including processing personal data on our behalf, we are required under GDPR to enter into contractual arrangements to help ensure that these third parties only process such data according to our instructions and have sufficient security measures in place. Any security breach or non-compliance with our contractual terms or breach of applicable law by such third parties could result in enforcement actions, litigation, fines and penalties or adverse publicity and could cause our customers to lose trust in us, which could have an adverse impact on our reputation and business.

In recent years, U.S. and European lawmakers and regulators have expressed concern over electronic marketing and the use of third-party cookies, web beacons and similar technology for online behavioral advertising. In the E.U., marketing is defined broadly to include any promotional material and the rules specifically on e-marketing are currently set out in the ePrivacy Directive which will be replaced by a new ePrivacy Regulation. While the ePrivacy Regulation was originally intended to be adopted on May 25, 2018 (alongside the GDPR), it is still going through the European legislative process and commentators now expect it to be adopted during the middle or second half of 2019. The current draft of the ePrivacy Regulation imposes strict opt-in e-marketing rules with limited exceptions to business to business communications and significantly increases fining powers to the same levels as GDPR (see above).

We may find it necessary or desirable to join self-regulatory bodies or other privacy-related organizations, particularly relating to biopharmacy and/or scientific research, that require compliance with their rules pertaining to privacy and data security.

The introduction of the GDPR, and any resultant changes in E.U. member states' national laws and regulations and the ePrivacy Regulation, will increase our compliance obligations and will necessitate the review and implementation of policies and processes relating to our collection and use of data. This increase in compliance obligations could also lead to an increase in compliance costs which may have an adverse impact on our business, financial condition or results of operations.

In the United States, California enacted the California Consumer Privacy Act ("CCPA") on June 28, 2018, which went into effect on January 1, 2020. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation in the United States, which could increase our potential liability and adversely affect our business.

If any person, including any of our employees, clinical vendors or collaborators or those with whom we share such information, negligently disregards or intentionally breaches our established controls with respect to our clinical subject, clinical investigator or employee data, or otherwise mismanages or misappropriates that data, we could be subject to significant monetary damages, regulatory enforcement actions, fines and/or criminal prosecution in one or more jurisdictions. As above, under the GDPR there are significant new punishments for non-compliance which could result in a penalty of up to 4% of a firm's global annual revenue. In addition, a data breach could result in negative publicity which could damage our reputation and have an adverse effect on our business, financial condition or results of operations.

We strive to comply with all applicable laws, but they may conflict with each other, and by complying with the laws or regulations of one jurisdiction, we may find that we are violating the laws or regulations of another jurisdiction. Despite our efforts, we may not have fully complied in the past and may not in the future. If we become liable under laws or regulations applicable to us, we could be required to pay significant fines and penalties, our reputation may be harmed and we may be forced to change the way we operate. That could require us to incur significant expenses or to discontinue certain services, which could negatively affect our business.

Even if we are able to commercialize any product candidate, such product candidate may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

The regulations that govern regulatory approvals, pricing and reimbursement for new drugs and therapeutic biologics vary widely from country to country. Some countries require approval of the sale price of a drug or therapeutic biologic before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some foreign markets, prescription biopharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain regulatory approval.

Our ability to commercialize any products successfully also will depend in part on the extent to which coverage and reimbursement for these products and related treatments will be available from government authorities, private health insurers and other organizations. Even if we succeed in bringing one or more products to the market, these products may not be considered cost-effective, and the amount reimbursed for any products may be insufficient to allow us to sell our products on a competitive basis. Because our programs are in the early stages of development, we are unable at this time to determine their cost effectiveness or the likely level or method of reimbursement. Increasingly, the third-party payors who reimburse patients or healthcare providers, such as government and private insurance plans, are requiring that drug companies provide them with predetermined discounts from list prices, and are seeking to reduce the prices charged or the amounts reimbursed for biopharmaceutical products. If the price we are able to charge for any products we develop, or the reimbursement provided for such products, is inadequate in light of our development and other costs, our return on investment could be adversely affected. There may be significant delays in obtaining reimbursement for newly-approved drugs or therapeutic biologics, and coverage may be more limited than the purposes for which the drug or therapeutic biologic is approved by the FDA or similar regulatory authorities outside of the United States. Moreover, eligibility for reimbursement does not imply that any drug or therapeutic biologic will be reimbursed in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim reimbursement levels for new drugs or therapeutic biologics, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may be based on payments allowed for lower-cost drugs or therapeutic biologics that are already reimbursed, may be incorporated into existing payments for other services and may reflect budgetary constraints or imperfections in Medicare data. Net prices for drugs or therapeutic biologics may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs or therapeutic biologics from countries where they may be sold at lower prices than in the U.S. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for new drugs or therapeutic biologics that we develop and for which we obtain regulatory approval could have a material and adverse effect on our operating results, our ability to raise capital needed to commercialize products and our financial condition.

We may seek and fail to obtain fast track or breakthrough therapy designations for our current or future product candidates. If we are successful, these programs may not lead to a faster development or regulatory review process, and they do not guarantee we will receive approval for any product candidate. We may also seek to obtain accelerated approval for one or more of our product candidates but the FDA may disagree that we have met the requirements for such approval.

If a product is intended for the treatment of a serious or life-threatening condition and preclinical or clinical data demonstrate the potential to address an unmet medical need for this condition, the product sponsor may apply for fast track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive fast track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may rescind the fast track designation if it believes that the designation is no longer supported by data from our clinical development program.

We may also seek breakthrough therapy designation for any product candidate that we develop. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Like fast track designation, breakthrough therapy designation is within the discretion of the FDA. Accordingly, even if we believe a product candidate we develop meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if a product candidate we develop qualifies as a breakthrough therapy, the FDA may later decide that the drug no longer meets the conditions for qualification and rescind the designation.

Drugs designated as fast track products or breakthrough therapies by the FDA are also eligible for accelerated approval if the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. In addition, the FDA requires pre-approval of promotional materials for accelerated approval products, once approved. We cannot guarantee that the FDA will agree any of our product candidates has met the criteria to receive accelerated approval, which would require us to conduct additional clinical testing prior to seeking FDA approval. Even if any of our product candidates received approval through this pathway, the product may fail required post-approval confirmatory clinical trials, and we may be required to remove the product from the market or amend the product label in a way that adversely impacts its marketing.

We may seek Orphan Drug Designation for some of our product candidates, and we may be unsuccessful or may be unable to maintain the benefits associated with Orphan Drug Designation, including the potential for market exclusivity.

As part of our business strategy, we may seek Orphan Drug Designation for our product candidates, and we may be unsuccessful. Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs and therapeutic biologics for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug or therapeutic biologic as an orphan drug if it is a drug or therapeutic biologic intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug or therapeutic biologic will be recovered from sales in the United States. In the United States, Orphan Drug Designation entitles a party to financial incentives such as opportunities for grant funding toward clinical trial costs, tax advantages and user-fee waivers. In addition, if a product that has Orphan Drug Designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications, including a full BLA, to market the same product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or where the manufacturer is unable to assure sufficient product quantity.

Even if we obtain Orphan Drug Designation for our product candidates in specific indications, we may not be the first to obtain marketing approval of these product candidates for the orphan-designated indication due to the uncertainties associated with developing pharmaceutical products. In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs or therapeutic biologics with different active moieties can be approved for the same condition. Even after an orphan product is approved, the FDA can subsequently approve the same drug or

therapeutic biologic with the same active moiety for the same condition if the FDA concludes that the later drug or therapeutic biologic is safer, more effective or makes a major contribution to patient care. Orphan Drug Designation neither shortens the development time or regulatory review time of a drug or therapeutic biologic nor gives the drug or therapeutic biologic any advantage in the regulatory review or approval process. In addition, while we may seek Orphan Drug Designation for our product candidates, we may never receive such designations.

Tax reform legislation passed in 2017 reduced the amount of the qualified clinical research costs for a designated orphan product that a sponsor may claim as a credit from 50% to 25%. Thus, further limiting the advantage and may impact our future business strategy of seeking the Orphan Drug Designation.

Risks Related to Ownership of Our Common Stock

Our quarterly operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline.

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 expense related to the ongoing development of our Probody platform, our product candidates or future development programs;
- results of clinical trials, or the addition or termination of clinical trials or funding support by us, or existing or future collaborators or licensing partners;
- our execution of any additional collaboration, licensing or similar arrangements, and the timing of payments we may make or receive under existing or future arrangements or the termination or modification of any such existing or future arrangements;
- developments or disputes concerning patents or other proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our products;
- any intellectual property infringement lawsuit or opposition, interference or cancellation proceeding in which we may become involved;
- additions and departures of key personnel;
- strategic decisions by us or our competitors, such as acquisitions, divestitures, spin-offs, joint ventures, strategic investments or changes in business strategy;
- if any of our product candidates receives regulatory approval, the terms of such approval and market acceptance and demand for such product candidates;
- regulatory developments affecting our product candidates or those of our competitors; and
- changes in general market and economic conditions.

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 stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

Our stock price may be volatile and purchasers of our common stock could incur substantial losses.

Our stock price is volatile. Since our initial public offering (“IPO”), our stock had low and high sales prices in the range of $5.17 and $35.00 per share. The market price for our common stock may be influenced by many factors, including the other risks described in this section titled “Risk Factors” and the following:

- results of clinical trials and preclinical studies of our product candidates, or those of our competitors or our collaborators;
- regulatory or legal developments in the U.S. and other countries, especially changes in laws or regulations applicable to our products;
- the success of competitive products or technologies;

- introductions and announcements of new products by us, our future commercialization partners, or our competitors, and the timing of these introductions or announcements;
- actions taken by regulatory agencies with respect to our products, clinical studies, manufacturing process or sales and marketing terms;
- actual or anticipated variations in our financial results or those of companies that are perceived to be similar to us;
- the success of our efforts to acquire or in-license additional technologies, products or product candidates;
- developments concerning any existing or future collaborations, including but not limited to those with our sources of manufacturing supply and our commercialization partners;
- market conditions in the pharmaceutical and biotechnology sectors;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures or capital commitments;
- developments or disputes concerning patents or other proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our products;
- our ability or inability to raise additional capital and the terms on which we raise it;
- the recruitment or departure of key personnel;
- changes in the structure of healthcare payment systems;
- actual or anticipated changes in earnings estimates or changes in stock market analyst recommendations regarding our common stock, other comparable companies or our industry generally;
- our failure or the failure of our competitors to meet analysts' projections or guidance that we or our competitors may give to the market;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- announcement and expectation of additional financing efforts;
- speculation in the press or investment community;
- trading volume of our common stock;
- sales of our common stock by us or our stockholders;
- the concentrated ownership of our common stock;
- changes in accounting principles;
- terrorist acts, acts of war or periods of widespread civil unrest;
- natural disasters and other calamities; and
- general economic, industry and market conditions.

In addition, the stock markets in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have experienced extreme volatility that has been often unrelated to the operating performance of the issuer. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance.

The future issuance of equity or of debt securities that are convertible into equity will dilute our share capital.

We may choose to raise additional capital in the future, depending on market conditions, strategic considerations and operational requirements. To the extent that additional capital is raised through the issuance of shares or other securities convertible into shares, our stockholders will be diluted. Future issuances of our common stock or other equity securities, or the perception that such sales may occur, could adversely affect the trading price of our common stock and impair our ability to raise capital through future offerings of shares or equity securities. No prediction can be made as to the effect, if any, that future sales of common stock or the availability of common stock for future sales will have on the trading price of our common stock.

The employment agreements with our executive officers may require us to pay severance benefits to officers in connection with termination of employment or upon a change of control of us, which could harm our financial condition.

Each of our executive officers is entitled to receive a lump sum payment equal to one year or more of his or her base salary as well as continued medical and dental coverage for a period of one year or more plus a prorated portion of his or her target annual bonus for the calendar year in which his or her employment is terminated following his or her termination of employment due to good reason or without cause. In the event of a change in control and a termination of employment without cause or due to good reason, each of our executive officers would similarly receive one year or more of his or her base salary as well as continued medical and dental coverage for a period of one year or more, as well as an additional lump sum payment equal to 100% or more of his or her target annual bonus for the calendar year in which his or her employment is terminated and full vesting of his or her outstanding option awards. The accelerated vesting of options could result in dilution to our existing stockholders and harm the market price of our common stock. Furthermore, the payment of these severance benefits could harm our financial condition. In addition, these potential severance payments may discourage or prevent third parties from seeking a business combination with us.

An active market for our common stock may not be maintained.

Prior to our IPO in October 2015, there had been no public market for shares of our common stock. Our stock began trading on the Nasdaq Global Select Market in 2015, and we can provide no assurance that we will be able to maintain an active trading market on The Nasdaq Global Select Market or any other exchange in the future. If an active market for our common stock is not maintained, it may be difficult for our stockholders to sell shares without depressing the market price for the shares or at all. An inactive market may also impair our ability to raise capital by selling shares and may impair our ability to acquire other businesses, applications or technologies using our shares as consideration.

If securities or industry analysts do not publish research or reports about our business, or if they issue adverse or misleading opinions regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our target studies and operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

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

As of December 31, 2019, our executive officers, directors, holders of 5% or more of our capital stock based on publicly available filings made with the SEC and their respective affiliates beneficially owned approximately 30% of our outstanding common stock. Therefore, these stockholders have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that our stockholders may feel are in their best interest.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws may delay or prevent an acquisition of us or a change in our management. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. These provisions include:

- a prohibition on actions by our stockholders by written consent;
- a requirement that special meetings of stockholders, which our company is not obligated to call more than once per calendar year, be called only by the chairman of our board of directors, our chief executive officer, our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors, or, subject to certain conditions, by our secretary at the request of the stockholders holding of record, in the aggregate, shares entitled to cast not less than ten percent of the votes at a meeting of the stockholders (assuming all shares entitled to vote at such meeting were present and voted);

- advance notice requirements for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings;
- division of our board of directors into three classes, serving staggered terms of three years each; and
- the authority of the board of directors to issue preferred stock with such terms as the board of directors may determine.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, as amended, which prohibits a person who owns in excess of 15 percent of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15 percent of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. These provisions would apply even if the proposed merger or acquisition could be considered beneficial by some stockholders.

We incur increased costs as a result of operating as a public company, and our management is required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, we incur significant legal, accounting and other expenses. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Select Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors. However, these rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act of 2002 in a timely manner or with adequate compliance, we may be subject to sanctions by regulatory authorities.

Section 404 of the Sarbanes-Oxley Act of 2002 requires that we evaluate and determine the effectiveness of our internal controls over financial reporting and provide a management report on the internal control over financial reporting. If we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. We evaluate our internal controls systems to allow management to report on the effectiveness of the operation of our internal controls.

However, if we are not able to comply with the requirements of Section 404, or if we or our independent registered public accounting firm identify deficiencies in our internal controls that are deemed to be material weaknesses, we could be subject to sanctions or investigations by The Nasdaq Global Select Market, the SEC or other regulatory authorities, which would entail expenditure of additional financial and management resources and could materially adversely affect our stock price. Deficient internal controls could also cause us to fail to meet our reporting obligations or cause investors to lose confidence in our reported financial information, which could have a negative effect on our stock price.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

We may incur significant costs from class action litigation due to our expected stock volatility.

Our stock price may fluctuate for many reasons, including as a result of public announcements regarding the progress of our development efforts or the development efforts of future collaborators or competitors, the addition or departure of our key personnel, variations in our quarterly operating results and changes in market valuations of biopharmaceutical and biotechnology companies.

This risk is especially relevant to us because biopharmaceutical and biotechnology companies have experienced significant stock price volatility in recent years. When the market price of a stock has been volatile as our stock price may be, holders of that stock have occasionally brought securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit of this type against us, even if the lawsuit is without merit, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

Our amended and restated bylaws designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated bylaws provide that, subject to limited exceptions, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, as amended, our amended and restated certificate of incorporation or our amended and restated bylaws, any action to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws or any other action asserting a claim against us that is governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our amended and restated certificate of incorporation described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find these provisions of our amended and restated certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

Item 1B. ***Unresolved Staff Comments***

None

Item 2. ***Properties***

Our principal executive office is currently located in South San Francisco, California, and consists of approximately 76,000 square feet of office and research and development space, all of which is located in a single building, under a lease that expires in October 2026. We believe that our existing facilities are sufficient for our current needs.

Item 3. Legal Proceedings

We are not currently a party to any material litigation or legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Market Information for Common Stock

Our common stock has been listed on the Nasdaq Global Select Market under the symbol "CTMX" since our initial public offering in October 2015. Prior to that time, there was no public market for our common stock.

Holders of Record

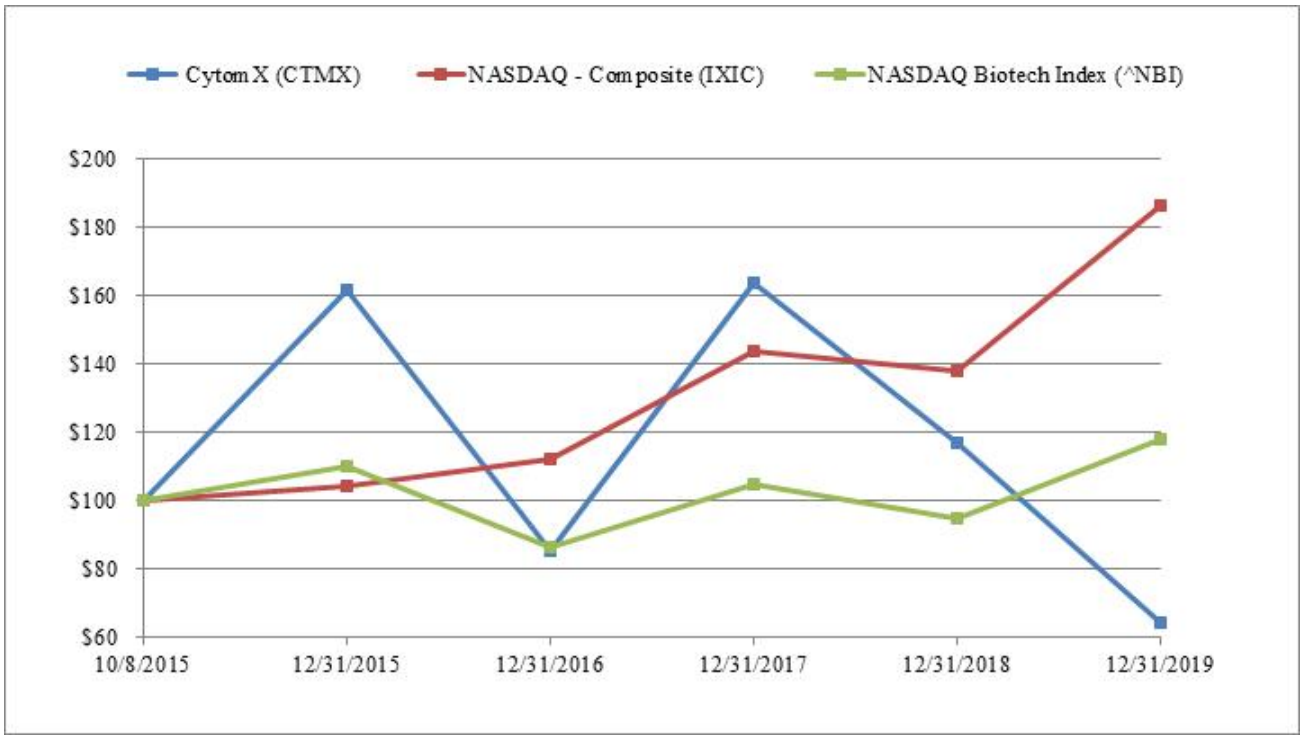
As of January 31, 2020, there were approximately 36 stockholders of record of our common stock. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividend Policy

We currently intend to retain future earnings, if any, for use in operation of our business and to fund future growth. We have never declared or paid any cash dividends on our capital stock and do not anticipate paying any cash dividends in the foreseeable future. Payment of cash dividends, if any, in the future will be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

Stock Performance Graph

The following graph shows the total stockholder's return on an investment of $100 in cash at market close on October 8, 2015 (the first day of trading of our common stock), through December 31, 2019 for (i) our common stock, (ii) the Nasdaq Composite Index and (iii) the Nasdaq Biotechnology Index. Pursuant to applicable Securities and Exchange Commission rules, all values assume reinvestment of pre-tax amount of all dividends; however, no dividends have been declared on our common stock to date. The stockholder return shown on the graph below is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future stockholder return. This graph shall not be deemed "soliciting material" or be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 as amended (the "Exchange Act"), or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended (the "Securities Act"), whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.



$100 investment in stock or index	October 8, 2015	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019
CytomX (CTMX)	$ 100.00	$ 161.78	$ 85.19	$ 163.64	$ 117.05	$ 64.42
Nasdaq Composite Index (IXIC)	$ 100.00	$ 104.09	$ 111.90	$ 143.50	$ 137.92	$ 186.51
Nasdaq Biotech Index (^NBI)	$ 100.00	$ 110.25	$ 86.34	$ 104.52	$ 94.77	$ 117.91

Securities Authorized for Issuance Under Equity Compensation Plans

The information required by this Item regarding equity compensation plans is incorporated by reference to the information set forth in PART III. Item 12 of this Annual Report on Form 10-K.

Use of Proceeds from Registered Securities

None.

Recent Sales of Unregistered Equity Securities

As disclosed in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, filed with the Securities and Exchange Commission on May 9, 2019, we entered into Amendment No.3 to the UCSB Agreement with UCSB on April 2, 2019 to adjust and clarify certain sublicense terms ("Amendment No.3"). In connection with Amendment No.3, we issued 150,000 shares of CytomX common stock, pursuant to a Securities Issuance Agreement, dated April 2, 2019, by and between CytomX and UCSB. The issuance of shares described in the preceding sentence was deemed to be exempt from registration under Section 4(a)(2) of the Securities Act as a transaction by an issuer not involving a public offering.

Issuer Purchases of Equity Securities

None.

Item 6. ***Selected Financial Data***

You should read the following selected financial data together with the information under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included in this Form 10-K. The statement of operations data for each of the years ended December 31, 2019, 2018 and 2017 and the balance sheet data as of December 31, 2019 and 2018 are derived from our audited financial statements included elsewhere in this Form 10-K. The statement of operations data for each of the years ended December 31, 2016 and 2015 and the selected balance sheet data as of December 31, 2017, 2016 and 2015 are derived from our audited financial statements which are not included in this Annual Report on Form 10-K. Our historical results of any prior periods are not necessary indicative of results to be expected in any future period.

We adopted the Accounting Standards Codification 606, *Revenue from Contracts with Customers* ("ASC 606"), effective January 1, 2018 on a modified retrospective basis. As such, the prior period amounts were not restated and continue to be presented in accordance with Accounting Standards Codification 605, *Revenue Recognition* ("ASC 605").

We adopted the Accounting Standard Update ("ASU") No. 2016-02, *Leases (Topic 842)*, effective on January 1, 2019 on a modified retrospective basis. We also elected for the new transition method to use the effective date as the date of initial application and accordingly the prior period amounts were not restated.

Statement of Operations Data:

(in thousands, except share and per share data)	Year Ended December 31, 2019	2018	2017	2016	2015
Revenues	$ 57,489	$ 59,502	$ 71,623	$ 12,845	$ 5,941
Revenues from related parties	—	—	—	2,198	1,771
Total revenues	57,489	59,502	71,623	15,043	7,712
Operating expenses:					
Research and development	131,619	103,866	92,277	54,755	28,357
General and administrative	36,765	33,510	25,605	19,874	12,558
Total operating expenses	168,384	137,376	117,882	74,629	40,915
Loss from operations	(110,895)	(77,874)	(46,259)	(59,586)	(33,203)
Interest income	8,365	7,641	2,674	736	1,315
Interest expense	—	—	—	—	(1,732)
Other expense, net	(135)	(68)	(27)	(69)	(1,744)
Loss before income taxes	(102,665)	(70,301)	(43,612)	(58,919)	(35,364)
Provision for (benefit from) income taxes	(427)	14,303	(513)	(19)	10
Net loss	(102,238)	(84,604)	(43,099)	(58,900)	(35,374)
Accretion to redemption value and cumulative dividends on preferred stock	—	—	—	—	(6,705)
Net loss attributable to common stockholders	$ (102,238)	$ (84,604)	$ (43,099)	$ (58,900)	$ (42,079)
Net loss per share attributable to common stockholders, basic and diluted	$ (2.26)	$ (2.03)	$ (1.16)	$ (1.63)	$ (4.90)
Shares used to compute net loss per share attributable to common stockholders, basic and diluted	45,335,927	41,664,382	37,166,830	36,234,732	8,595,247
Other comprehensive loss:					
Changes in unrealized gain (losses) on investments	139	1	(67)	49	(76)
Impact of adoption of new accounting pronouncement	11	-	-	-	-
Comprehensive loss	$ (102,088)	$ (84,603)	$ (43,166)	$ (58,851)	$ (35,450)

Balance Sheet Data:

(in thousands)	As of December 31, 2019	2018	2017	2016	2015
Balance Sheet Data:					
Cash, cash equivalents and short term investments	$ 296,145	$ 436,127	$ 374,110	$ 181,938	$ 186,711
Working capital	217,745	347,567	327,454	152,380	174,015
Total assets	341,282	457,108	397,644	199,128	197,215
Accumulated deficit	(417,230)	(314,981)	(219,465)	(176,366)	(117,466)
Total stockholders' equity	51,113	130,883	69,896	78,479	126,068

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

The following discussion should be read in conjunction with the attached financial statements and notes thereto. This Annual Report on Form 10-K, including the following sections, contains forward-looking statements within the meaning of the federal securities laws. These statements are subject to risks and uncertainties that could cause actual results and events to differ materially from those expressed or implied by such forward-looking statements. For a detailed discussion of these risks and uncertainties, see the "Risk Factors" section in Item 1A of this Annual Report on Form 10-K. We caution the reader not to place undue reliance on these forward-looking statements, which reflect management's analysis only as of the date of this Form 10-K. We undertake no obligation to update forward-looking statements, which reflect events or circumstances occurring after the date of this Form 10-K.

Overview

We are a clinical-stage, oncology-focused biopharmaceutical company with a vision of transforming lives with safer, more effective therapies. We are developing a novel class of investigational antibody therapeutics, based on our Probody® technology platform, for the treatment of cancer. Our innovative technology is designed to turn previously undruggable targets into druggable targets and to enable more effective combination therapies. Together with our partners, we have advanced five novel drug-candidates into clinical trials, three of which are in Phase 2 studies. We have strong industry partnerships with leading biotech and pharmaceutical companies. Our Probody therapeutic approach is designed to enable "conditional activation" of antibody-based drugs within cancer tissue to more specifically target the tumor microenvironment and minimize drug activity in healthy tissue and in circulation. We achieve conditional activation of antibodies by modifying them with a mask which blocks binding of the antibody to its target until the mask is removed. Mask removal occurs in cancer tissue when proteases, enzymes that are highly active in cancer but not normal tissue, selectively cleave the mask from the antibody, resulting in unmasked antibody activity in the tumor but not normal tissue. We believe this approach has the potential to develop clinically meaningful therapeutics and improve patient outcomes in three ways: 1) by enhancing the "therapeutic window" for drug candidates, that is, the balance between their tolerability and activity, 2) by pursuing tumor targets that were previously considered 'undruggable' due to their ubiquitous expression on normal tissues, and 3) by pursuing novel combination therapies that are poorly tolerated without using our Probody platform. We are developing a robust pipeline by leveraging our Probody platform to develop a product pipeline of potential best-in-class immunotherapies against clinically validated targets and potential first-in-class therapeutics against novel, difficult to drug targets.

We are currently conducting clinical trials for three product candidates derived from our Probody platform. Our partner, Bristol-Myers Squibb is conducting clinical trials for a fourth and fifth product candidate derived from our Probody platform. We do not have any product candidates approved for sale, and we continue to incur significant research and development and general administrative expenses related to our operations. We are not profitable and have incurred losses in each year since our founding in 2008. Our net loss was $102.2 million, $84.6 million and $43.1 million for 2019, 2018 and 2017, respectively. As of December 31, 2019 and 2018, we had an accumulated deficit of $ 417.2 million and $315.0 million, respectively. We expect to continue to incur significant losses for the foreseeable future.

Regulatory agencies, including the FDA, regulate many aspects of a product candidate's life cycle, including research and development and preclinical and clinical testing. We will need to commit significant time, resources, and funding to develop our wholly owned and partnered product candidates in clinical trials, including CX-072, CX-2009 and CX-2029 as well as any additional product candidates for which we initiate clinical trials in the future. We are unable to provide the nature, timing, and estimated costs of the efforts necessary to complete the development of our product candidates because, among other reasons, of regulatory uncertainty, manufacturing limitations and the pace of enrollment of our clinical trials, which is a function of many factors, including the availability and proximity of patients with the relevant condition.

We currently have no manufacturing capabilities and do not intend to establish any such capabilities in the near term. As such, we are dependent on third parties to supply our product candidates according to our specifications, in sufficient quantities, on time, in compliance with appropriate regulatory standards and at competitive prices.

Components of Results of Operations

Revenue

Our revenue to date has been primarily derived from non-refundable license payments, milestone payments and reimbursements for research and development expenses under our research, collaboration, and license agreements. We recognize revenue from upfront payments over the term of our estimated period of performance under the agreement using a cost-based input method or a common measure of progress for the entire performance obligation. In addition to receiving upfront payments, we may also be entitled to milestone and other contingent payments upon achieving predefined objectives. Revenue from milestones and other contingent payments, when it is probable that there will not be a significant revenue reversal, is also recognized over the performance period based on a similar method. Reimbursements from Bristol-Myers Squibb and Pfizer for research and development costs incurred under our research, collaboration and license agreements with them are classified as revenue.

For the foreseeable future, we do not expect to generate any revenue from the sale of products unless and until such time as our product candidates have advanced through clinical development and obtained regulatory approval. We expect that any revenue we generate in the foreseeable future will fluctuate from year to year as a result of the timing and amount of milestones and other payments from our collaboration agreements with AbbVie, Amgen, Bristol-Myers Squibb and any other collaboration partners, and as a result of the fluctuations in the research and development expenses we incur in the performance of assigned activities under these agreements.

AbbVie Ireland Unlimited Company ("AbbVie"), one of our collaboration partners, entered into a license agreement with Seattle Genetics, Inc. ("SGEN") to license certain intellectual property rights. As part of our collaboration agreement with AbbVie, we received a sublicense to these intellectual property rights and therefore pay SGEN sublicense fees. These sublicense fees are treated as reductions to the transaction price and combined with the performance obligation to which they relate. Milestone payments, when considered probable of being reached and when a significant revenue reversal would not be probable of occurring, are also recorded net of the associated sublicense fees and included in the transaction price.

On January 1, 2018, we adopted Accounting Standards Update, or ASU, No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* using the modified retrospective transition method. See further discussion under "Critical Accounting Policies and Estimates – Revenue Recognition."

Research and Development Expenses

Our research and development expenses consist primarily of costs incurred to conduct research, such as the discovery and development of our product candidates, clinical development including activities with third parties, such as contract research organizations ("CRO") and contract development and manufacturing organizations ("CMO"), the manufacture of drug products used in clinical trials, as well as the development of product candidates pursuant to our research, collaboration and license agreements. Research and development expenses include personnel costs, including stock-based compensation expense, contractor services, laboratory materials and supplies, depreciation and maintenance of research equipment, and an allocation of related facilities costs. We expense research and development costs as incurred.

We expect our research and development expenses to increase substantially in absolute dollars in the future as we advance our product candidates through clinical trials, initiate additional clinical trials, and pursue regulatory approval of our product candidates. Examples include the recent initiation of our Phase 2 clinical trials for each of CX-072 and CX-2009 and the continuation of our ongoing Phase 1/2 clinical trials evaluating CX-072, CX-2009 and CX-2029. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time-consuming. The actual probability of success for our product candidates may be affected by a variety of factors including: the safety and efficacy of our product candidates, early clinical data, investment in our clinical program, the ability of collaborators to successfully develop our licensed product candidates, competition, manufacturing capability and commercial viability. We may never succeed in achieving regulatory approval for any of our product candidates. As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of our product candidates.

General and Administrative Expenses

General and administrative expenses include personnel costs, expenses for outside professional services and other allocated expenses. Personnel costs consist of salaries, bonuses, benefits and stock-based compensation. Outside professional services consist of accounting and audit services, legal and other consulting fees. Allocated expenses primarily consist of rent expense related to our office and information technology related costs.

Interest Income

Interest income primarily consists of interest income from our cash equivalents and short-term investments, and accretion of discounts or amortization of premiums on our short-term investments.

Other Income (Expense), Net

Other income (expense), net consists primarily of changes to currency exchange rates.

Provision for (Benefit from) Income Taxes

Income taxes are recorded in accordance with ASC 740, Accounting for Income Taxes, or ASC 740, which provides for deferred taxes using an asset and liability approach. We recognize deferred tax assets and liabilities for the expected future tax consequences of events that have been included in our financial statements or tax returns. We determine our deferred tax assets and liabilities based on differences between the financial reporting and tax bases of assets and liabilities, which are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. Valuation allowances are provided, if based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

We also account for uncertain tax positions in accordance with the provisions of ASC 740. When uncertain tax positions exist, we recognize the tax benefit of tax positions to the extent that the benefit will more likely than not be realized. The determination as to whether the tax benefit will more likely than not be realized is based upon the technical merits of the tax position as well as consideration of the available facts and circumstances.

Comparison of Years Ended December 31, 2019 and 2018

Revenue

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
Revenue	$ 57,489	$ 59,502	$ (2,013)

Revenue decreased by $2.0 million for 2019 compared to 2018. The following table summarizes our revenue by collaboration partner during the respective periods:

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
AbbVie	$ 5,878	$ 18,997	$ (13,119)
Amgen	3,871	4,899	(1,028)
Bristol-Myers Squibb	47,740	32,780	14,960
ImmunoGen	-	1,471	(1,471)
Pfizer	-	1,355	(1,355)
Total Revenue	$ 57,489	$ 59,502	$ (2,013)

The decrease in revenue of $2.0 million for 2019 compared to 2018 was primarily due to:

- a decrease in revenue from AbbVie due to the $21.0 million milestone payment (net of the associated sublicense fee of $4.0 million) earned in May 2018 under the CD71 Co-Development and Licensing Agreement with AbbVie (the “CD71 Agreement”), of which $11.7 million was recognized in 2018 (reflecting the percentage completed to-date on the project);
- the lower percentage of completion progress under the CD71 Agreement in 2019 as a result of ongoing dose escalation in the continued development program for CX-2029, which extended the estimated research service period;
- a decrease in revenue from Amgen of $1.0 million due to lower percentage of completion progress in 2019 as a result of a joint decision with Amgen to perform additional research, which required a corresponding extension of the research service period under the Collaboration and License Agreement with Amgen (the “Amgen Agreement”);
- a decrease in revenue from ImmunoGen of $1.5 million due to the completion of the related research term in June 2018 under our Research Collaboration Agreement with ImmunoGen (the “ImmunoGen Research Agreement”); and
- a decrease in revenue from Pfizer of $1.4 million due to termination of our Research Collaboration, Option and License Agreement with Pfizer Inc. in March 2018.

The above decreases were partially offset by the accelerated recognition of revenue of $17.4 million related to the termination of certain targets under the Collaboration and License Agreement with Bristol-Myers Squibb (the “BMS Agreement”) in the first quarter of 2019.

Operating Costs and Expenses

Research and Development Expenses

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
Research and development	$ 131,619	$ 103,866	$ 27,753

Research and development expenses increased by $27.8 million during 2019 compared to 2018. The increase was attributable to the following:

- an increase of $7.9 million in personnel-related expenses primarily due to an increase in headcount;
- a $5.0 million charge relating to the acquisition of technical know-how related to drug conjugate linker-toxin and CD3-based bispecific technologies during the first quarter of 2019;
- an increase of $11.2 million in license fees primarily due to (1) $3.4 million associated with entering into the amendment to the license agreement with UCSB (the "UCSB Agreement") in the second quarter of 2019 ("Amendment No.3") (representing the 150,000 shares of common stock issued for $1.6 million, the upfront payment of $1.0 million and the additional annual maintenance fee of $0.8 million) and (2) a $7.5 million upfront license fee for the ImmunoGen EpCAM agreement (the "ImmunoGen 2019 License") established in the fourth quarter of 2019;
- an increase of $1.8 million in clinical related expenses resulting from increased clinical trial activities;
- an increase of $2.7 million in the allocation of information technology and facilities related expenses resulting from an increase in headcount and overall overhead expenses;
- an increase of $1.4 million in consulting expenses resulting from increased clinical trial activities; and
- an increase of $0.4 million in depreciation expense due to the addition of machinery and equipment.

The above increases were partially offset by a decrease of $2.6 million in laboratory contracts and services as a result of timing of manufacturing activities and reduced related activities as well as reduced costs relating to CX-188 following our indefinite postponement of further development of such program.

The following table summarizes our research and development expenses by program incurred during the respective periods presented:

	Year Ended December 31,		
	2019	2018	Change
External costs incurred by product candidate (target):	*(in thousands)*		
CX-072 (PD-L1)	$ 27,054	$ 19,393	$ 7,661
CX-2009 (CD166)	15,014	16,615	(1,601)
CX-2029 (CD71)	9,376	10,798	(1,422)
Other wholly owned and partnered programs	11,591	10,261	1,330
General research and development expenses	21,568	10,547	11,021
	84,603	67,614	16,989
Internal Costs	47,016	36,252	10,764
Total research and development expenses	$ 131,619	$ 103,866	$ 27,753

The increase in CX-072 costs for 2019 compared to 2018 was primarily due to an increase in laboratory contracts and services of $5.4 million and clinical trial expenses of $1.2 million. The decreases in CX-2009 and CX-2029 costs for 2019 compared to 2018 were primarily due to decreased drug production runs in 2019. The increase in "Other wholly-owned and partnered programs" for 2019 compared to 2018 was primarily due to the $7.5 million upfront license fee for the EPCAM PDC program we entered into with Immunogen in the fourth quarter of 2019 (the "ImmunoGen 2019 License"), partially offset by reduced costs relating to CX-188 following our indefinite postponement of further development of such program at the end of 2018. The increase in general research and development expenses for 2019 compared to 2018 was primarily due to a $5.0 million charge relating to the acquisition of technical know-how during the first quarter of 2019, and a $3.4 million expense associated with entering into Amendment No.3 to the UCSB Agreement in the second quarter of 2019. The increase in internal costs for 2019 was primarily due to increase in personnel-related expenses and allocation of information technology and facilities-related expenses resulting from an increase in headcount and overall overhead expenses.

General and Administrative Expenses

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
General and administrative	$ 36,765	$ 33,510	$ 3,255

General and administrative expenses increased by $3.3 million during 2019 compared to that in 2018. The increase was attributable to the following:

- an increase of $3.3 million in personnel-related and recruiting expense due to an increase in headcount;
- an increase of $1.1 million in dues and subscriptions expenses primarily related to software and other IT services;
- an increase of $1.0 million in consulting and professional services primarily due to an increase in tax and audit activities in the first quarter of 2019;
- an increase of $0.3 million in building maintenance charges; and
- an increase of $0.3 million in depreciation and amortization expenses due to addition of furniture and fixtures and leasehold improvements.

These increases were partially offset by a decrease of $2.7 million through more overhead expenses allocated out to research and development due to an increase in research and development headcount relative to general and administrative headcount.

Interest Income and Other Expense, Net

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
Interest income	$ 8,365	$ 7,641	$ 724
Other expense, net	(135)	(68)	(67)
Total interest income and other expense	$ 8,230	$ 7,573	$ 657

Interest Income

Interest income increased $0.7 million for 2019 compared to 2018. The increase was primarily attributable to an increase in interest income earned since July 2018 on our short-term investments due to an overall increase in our cash, cash equivalents and short-term investments position resulting from the common stock offering completed in July 2018.

Other Expense, net

Other expenses, net increased by $0.1 million in expense for 2019 compared to 2018. The increase in expense was primarily attributable to an increase in foreign currency losses resulting from the weakening of the U.S. dollar against the Euro and British Pound Sterling.

Provision for (Benefit from) Income Taxes

	Year Ended December 31,		
	2019	2018	Change
	(in thousands)		
Provision for (benefit from) income taxes	$ (427)	$ 14,303	$ (14,730)

Provision for income taxes decreased by $14.7 million for 2019 compared to 2018. The benefit from income taxes of $0.4 million for 2019 was primarily due to a true-up of 2018 federal income tax expense and an unrealized gain related to the available-for-sale securities recorded in other comprehensive income for 2019. The provision for income taxes of $14.3 million for 2018 was generated as a result of a temporary difference in the recognition of revenue under tax and U.S. GAAP authoritative guidance, primarily due to revenue recognition for tax purposes in 2018 of certain upfront payments received in 2017.

Comparison of Years Ended December 31, 2018 and 2017

Revenue

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
Revenue	$ 59,502	$ 71,623	$ (12,121)

Revenue decreased by $12.1 million for 2018 compared to 2017. The following table summarizes our revenue by collaboration partner during the respective periods:

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
AbbVie	$ 18,997	$ 19,434	$ (437)
Amgen	4,899	1,311	3,588
Bristol-Myers Squibb	32,780	36,492	(3,712)
ImmunoGen	1,471	12,503	(11,032)
Pfizer	1,355	1,883	(528)
Total Revenue	$ 59,502	$ 71,623	$ (12,121)

The variances in revenue for 2018 compared to 2017 were partially due to the adoption of ASC 606.

Under ASC 605, total revenue for 2018 would have been $66.0 million, a decrease of $5.6 million from $71.6 million in 2017, primarily due to a $3.0 million net decrease in milestone payments, as well as a $2.6 million decrease in the recognition of deferred revenues in 2018 as follows:

- in 2017, a total of $24.0 million in milestone payments were recognized, including $14.0 million (net of the payment of an associated license fee of $1.0 million to Seattle Genetics (“SGEN”) under the Seattle Genetics Agreement) received from AbbVie for meeting the criteria to begin the CD71 GLP toxicology studies under the AbbVie Agreements and $10.0 million received from Bristol-Myers Squibb related to the IND filing for BMS-986249 in 2017;
- in 2018, a $21.0 million milestone payment (net of the payment of an associated sublicense fee of $4.0 million to SGEN) was received from AbbVie for the achievement of the successful IND filing criteria related to CX-2029; and
- the $2.6 million decrease in recognition of deferred revenue under ASC 605 was attributable to a decrease of $11.8 million related to ImmunoGen, partially offset by a $6.2 million increase and a $3.1 million increase related to Bristol-Myers Squibb and Amgen, respectively.

The difference between the amount of revenue recognized under ASC 606 and the amount that would have been recognized under ASC 605 was primarily a result of the difference in how revenue is recognized related to the $21.0 million (net of the payment of an associated sublicense fee of $4.0 million to SGEN) CD71 milestone payment. Under ASC 606, the milestone payment is included in the transaction price and recognized over time based on the total estimated percentage completed to-date. Under ASC 605, the entire $21.0 million would have been recognized upon satisfaction of the successful IND filing criteria.

The decrease in revenue from AbbVie of $0.4 million for 2018 compared to 2017 was primarily due to the recognition of $14.0 million (net of the payment of an associated license fee of $1.0 million to SGEN) in milestone revenue as a result of completion of certain milestones under the CD71 Agreement during the third quarter of 2017, which was partially offset by the recognition of $11.7 million of revenue based on the percentage completed to-date on the project of the $21.0 million milestone payment received(net of the payment of an associated sublicense fee of $4.0 million to SGEN) and added to the transaction price in May 2018 for the achievement of the IND filing success criteria under the CD71 Agreement; and an increase of $1.9 million in revenue resulting from the change in the method of revenue recognition for the CD71 Agreement from straight-line under ASC 605 to percentage-of-completion under ASC 606, which we adopted on January 1, 2018.

Revenue from Amgen under the Amgen Agreement entered into in September 2017 increased by $3.6 million for 2018 compared to 2017. The increase in revenue was primarily due to a full year of revenue recognized for 2018 as compared to a partial year's revenue recognition for this agreement starting in October 2017. In the fourth quarter of 2018, the joint steering committee ("JSC") officially terminated any further work on two molecules in the Amgen EGFR project due to unacceptable test results. The current plan is to evaluate other molecules as part of the candidate identification phase of the project, and as a result, there has been a change in estimate of the actual full-time employee ("FTE") hours-to-completion and an extended research service period to seven years. As such, the revenue growth in 2018 was not as large as it may have been before this change in estimate in late 2018.

The decrease in revenue from Bristol-Myers Squibb of $3.7 million for 2018 compared to 2017 was primarily due to a $10.0 million milestone payment related to the IND filing for BMS-986249 by Bristol-Myers Squibb in 2017, a decrease of $1.3 million in amortization of certain deferred revenue resulting from an increase in the estimated length of the research terms during late April 2017, which caused average monthly amortization in 2018 to be less than that reported in 2017, and a decrease in service revenue of $0.3 million for 2018 compared to that in 2017. These factors that contributed to larger revenue in 2017 were partially offset by an increase of $7.9 million in amortization of deferred revenue for 2018 related to the $200.0 million upfront payment we received in the second quarter of 2017 as a result of Amendment Number 1 to Extend Collaboration and License Agreement ("BMS Amendment) entered into in March 2017.

The decrease in revenue from ImmunoGen of $11.0 million for 2018 compared to 2017 was the result of the recognition of $6.5 million in revenue in 2017 related to the delivery of the ImmunoGen 2017 License to ImmunoGen in connection with the ImmunoGen Research Agreement, as well as the recognition of $5.9 million of revenue during 2017 resulting from an amendment to the ImmunoGen Research Agreement extending the research term to June 2018, which was partially offset by an increase of $1.4 million in revenue in 2018 due to the related extension of the research term to June 2018.

The decrease in revenue from Pfizer of $0.5 million for 2018 compared to 2017 was as a result of Pfizer terminating our Research Collaboration, Option and License Agreement in March 2018.

Research and Development Expenses

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
Research and development	$ 103,866	$ 92,277	$ 11,589

Research and development expenses increased by $11.6 million during 2018 compared to 2017. The increase was primarily attributable to the following:

- an increase of $10.0 million in lab services and $12.3 million in clinical trial expenses related to CX-072, CX-2009 and CX-2029 Phase 1/2 clinical development and the ramp up for IND filing and clinical trial preparation for CX-188;
- an increase of $10.5 million in personnel related expenses and a $1.2 million allocation of information technology and facilities-related expenses resulting from an increase in headcount;
- an increase of $0.9 million in lab supplies; and
- an increase of $0.7 million in consulting expenses.

These increases were partially offset by:

- a $10.7 million of non-cash research and development expense recognized in 2017 related to the estimated fair value of the CytomX Product under the Amgen Agreement;

- a $10.0 million sublicense fee payment made to UCSB in 2017, which was triggered by the $200 million upfront payment made by Bristol-Myers Squibb in connection with our expanded collaboration;

- a $2.1 million sublicense fee payable to UCSB recognized as a result of the Amgen Agreement in 2017; and
- a $1.0 million sublicense payment to ImmunoGen upon the commencement of enrollment of Phase 1/2 and first patient dosing in the clinical trial for CX-2009 during the second quarter of 2017.

The following table summarizes our research and development expenses by program incurred during the respective periods:

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
External costs incurred by product candidate (target):			
CX-072 (PD-L1)	$ 19,393	$ 9,290	$ 10,103
CX-2009 (CD166)	16,615	8,533	8,082
CX-2029 (CD71)	10,798	9,550	1,248
Other wholly owned and partnered programs	10,261	21,099	(10,838)
General research and development expenses	10,547	18,976	(8,429)
	67,614	67,448	166
Internal Costs	36,252	24,829	11,423
Total research and development expenses	$ 103,866	$ 92,277	$ 11,589

The decrease in “Other wholly owned and partnered programs” for 2018 compared to 2017 was primarily due to $10.7 million of research and development expense recognized during 2017 related to the estimated fair value of the CytomX Product under the Amgen Agreement. The decrease in general research and development expenses for 2018 compared to 2017 was primarily a payment of $10.0 million in sublicense fee under the UCSB Agreement in 2017. The increase in other categories of external costs for 2018 was due primarily to increases in laboratory contracts and services and clinical trial expenses related to CX-072, CX-2009 and CX-2029 Phase 1/2 clinical development and the ramp up for IND filing and clinical trial preparation for CX-188. The increase in internal costs for 2018 was primarily due to increase in personnel-related expenses and allocation of information technology and facilities-related expenses resulting from an increase in headcount.

General and Administrative Expenses

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
General and administrative	$ 33,510	$ 25,605	$ 7,905

General and administrative expenses increased by $7.9 million during 2018 compared to 2017. The increase was attributable to an increase of $5.6 million in personnel-related expenses primarily due to an increase in headcount, and an increase of $2.3 million in subscription services and consulting or services expenses related to audit, strategic planning, tax compliance, legal compliance and facilities.

Interest Income and Other Expense, Net

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
Interest income	$ 7,641	$ 2,674	$ 4,967
Other expense, net	(68)	(27)	(41)
Total interest income and other expense	$ 7,573	$ 2,647	$ 4,926

Interest Income

Interest income increased by $5.0 million for 2018 compared to 2017. The increase was primarily attributable to an increase in interest earned on our short-term investments due to an overall increase in our cash and cash equivalents position resulting from the common stock offering completed in July 2018.

Other Expense, Net

Other expense, net increased by $41,000 in expense was primarily due to increased loss in currency exchange resulting from unfavorable movements in the US dollar relative to Euros.

Provision for (Benefit from) Income Taxes

	Year Ended December 31,		
	2018	2017	Change
	(in thousands)		
Provision for (benefit from) income taxes	$ 14,303	$ (513)	$ 14,816

Provision for income taxes increased to $14.3 million in 2018 from a benefit from income taxes of $0.5 million in 2017. The income tax expense was generated as a result of a temporary difference in the recognition of revenue under tax and U.S. GAAP authoritative guidance, primarily due to revenue recognized for tax purposes in 2018 related to upfront payments received in 2017, prior to revenue recognition for U.S. GAAP purposes. These upfront payments will be recognized over the related research and development service periods under U.S. GAAP for book purposes and the associated deferred tax assets due to the timing differences are subject to a valuation allowance. In addition, the ownership changes under Section 382 of the IRC in 2017 limited the use of available net operating losses and research tax credits against our 2018 taxable income.

Liquidity and Capital Resources

Sources of Liquidity

As of December 31, 2019, we had cash, cash equivalents and short-term investments of $296.1 million and an accumulated deficit of $417.2 million, compared to cash, cash equivalents and short-term investments of $436.1 million and an accumulated deficit of $315.0 million as of December 31, 2018. To date, we have financed our operations primarily through sales of our common stock in conjunction with the IPO and a subsequent stock offering, sales of our convertible preferred securities prior to our IPO and payments received under our collaboration agreements.

Based upon our current operating plan, we expect our existing capital resources will be sufficient to fund operations for a period of at least twelve months from the date the financial statements included in this report are issued. However, if the anticipated operating results and future financing are not achieved in future periods, our planned expenditures may need to be reduced in order to extend the time period over which the then-available resources would be able to fund the operations. The amounts and timing of our actual expenditures depend on numerous factors, including the progress of our preclinical and clinical development efforts, the results of any clinical trials and other studies, our operating costs and expenditures and other factors described under the caption “Risk Factors” in this Annual Report on Form 10-K. The cost and timing of developing our products, including CX-072, CX-2009 and CX-2029 are highly uncertain, are subject to substantial risks and many changes. As such, we may alter our expenditures as a result of contingencies such as the failure of one or all of our product candidates currently in clinical development, the acceleration of one or all of our product candidates in clinical development, the initiating of clinical trials for additional product candidates, the identification of a more promising product candidate in our research efforts or unexpected operating costs and expenditures. We will need to raise additional funds in the future. There can be no assurance, however, that such efforts will be successful or that, in the event that they are successful, the terms and conditions of such financing will be favorable to us.

Summary Statement of Cash Flows

The following table summarizes our cash flows for the periods presented:

	Year Ended December 31,		
	2019	2018	2017
		(in thousands)	
Net cash (used in) provided by operating activities	$ (140,480)	$ (75,521)	$ 170,373
Net cash provided by (used in) by investing activities	79,701	5,926	(121,266)
Net cash provided by financing activities	1,627	139,624	23,796
Net increase in cash, cash equivalents and restricted cash	$ (59,152)	$ 70,029	$ 72,903

Cash Flows from Operating Activities

2019

During the year ended December 31, 2019, cash used in operating activities was $140.5 million, which consisted of a net loss of $102.2 million, adjusted by non-cash charges of $21.1 million and a net decrease of $59.4 million relating to the change in our net operating assets and liabilities. The non-cash charges primarily consisted of $19.1 million in stock-based compensation; $1.6 million of common stock issued in connection with our entry into Amendment No.3 to the UCSB Agreement and $2.6 million in depreciation and amortization expense; which amounts were partially offset by $2.2 million in accretion of discounts on our short-term investments.

The change in our net operating assets and liabilities was primarily due to:

- a decrease of $47.7 million in deferred revenue resulting from continued recognition of deferred revenue from existing customers and the accelerated recognition of revenue of $17.4 million related to the termination of certain targets under the BMS Agreement in the first quarter of 2019, partially offset by the additional $10.0 million milestone payment due from AbbVie in June 2019, which payment was triggered by its selection of the second target under the Discovery Collaboration and Licensing Agreement with AbbVie (as amended, the "Discovery Agreement");
- a decrease of $12.7 million in accrued liabilities and income tax payable primarily due to the net payment of $13.1 million for our 2018 income tax liability and $3.8 million in sublicense fees, partially offset by $4.2 million increase in other liabilities during 2019;
- a decrease of $1.0 million in cashflow with $0.4 million from accounts payable and $0.6 million from other assets; and
- an increase of $2.0 million in cash flows from prepaid expenses and other current assets.

2018

During the year ended December 31, 2018, cash used in operating activities was $75.5 million, which consisted of a net loss of $84.6 million, adjusted by non-cash charges of $17.1 million and a net decrease of $8.0 million in our operating assets and liabilities. The non-cash charges primarily consisted of $16.9 million in stock-based compensation and $1.9 million in depreciation and amortization, partially offset by $1.7 million in accretion of discounts on our short-term investments.

The net decrease in our operating assets and liabilities of $8.0 million was primarily attributable to:

- a net decrease in deferred revenue of $38.2 million resulting from the recognition of $59.2 million in upfront fees and milestone payments under ASC 606 pursuant to our collaboration agreements, offset by the $21.0 million (net of the payment of an associated sublicense fee of $4.0 million to SGEN) new milestone addition to deferred revenue in 2018 resulting from the AbbVie CX-2029 milestone payment received;
- a decrease of $4.9 million resulting from the increase in prepaid expenses and other current assets; partially offset by
- an increase in cash flows from accounts receivable primarily from the $10.0 million we received from Bristol-Myers Squibb for achieving the milestone of IND filing of BMS-986249 in 2018;
- an increase of $24.8 million in accrued liabilities, income tax payable and other long-term liabilities resulting primarily from a $13.3 million increase in income tax payable, a $10.3 million in accrued liabilities driven by increases in laboratory services, UCSB sublicense fee accrual and CRO expenses accrual relating to clinical trial activities; and
- an increase in accounts payable of $0.3 million.

2017

During the year ended December 31, 2017, cash provided by operating activities was $170.4 million, which consisted of a net loss of $43.1 million, non-cash charges of $23.5 million, and an increase of $190.0 million in our net operating assets and liabilities. The non-cash charges primarily consisted of $1.6 million in depreciation and amortization, $11.3 million in stock-based compensation and a $10.7 million non-cash acquisition of in-process research and development asset charged to expense.

The change in our net operating assets and liabilities of $190.0 million was primarily attributable to:

- an increase of $189.9 million in deferred revenue resulting from Bristol-Myers Squibb upfront payment of $200.0 million and $40.0 million received in connection with the collaboration we entered into with Amgen in September 2017. These increases were partially offset by an increase in the recognition of revenue associated with upfront fees of $34.4 million under our various collaboration agreements, $6.6 million in recognized revenue from our delivery of a Development and Commercialization License to ImmunoGen in connection with the ImmunoGen Research Agreement, and $5.9 million in recognized revenue from ImmunoGen as a result of the amendment to the ImmunoGen Research Amendment;
- an increase in accrued and long-term liabilities of $9.2 million; and
- an increase in other assets of $1.6 million; partially offset by
- a decrease in accounts receivable of $8.0 million resulting primarily from the $10.0 million of milestone billing to Bristol-Myers Squibb for the IND filing of BMS-986249, offset by a $2.0 million payment received from Bristol-Myers Squibb relating to the 2016 milestone for the selection of BMS-986249; and
- a decrease of $2.4 million in accounts payable.

Cash Flows from Investing Activities

During the year ended December 31, 2019, cash provided by investing activities was $79.7 million, which consisted of $258.2 million in proceeds received upon the maturity of marketable securities, partially offset by $175.0 million used in the purchases of short-term investments and $3.5 million of capital expenditures used to purchase property and equipment.

During the year ended December 31, 2018, cash provided by investing activities was $5.9 million, which consisted of $204.6 million used in purchases of short-term investments and $3.8 million of capital expenditures used to purchase property and equipment. This was offset by $214.3 million in proceeds received upon the maturity of short-term investments.

During the year ended December 31, 2017, cash used in investing activities was $121.3 million, which consisted of $218.7 million used in the purchase of short-term investments and $1.6 million of capital expenditures used to purchase property and equipment. This amount was partially offset by $99.0 million in proceeds received upon the maturity of short-term investments.

Cash Flows from Financing Activities

During the year ended December 31, 2019, cash provided by financing activities was $1.6 million, primarily consisted of proceeds from the exercise of stock options and employee stock purchases under the employee stock purchase plan (“ESPP”).

During the year ended December 31, 2018, cash provided by financing activities was $139.6 million, primarily consisted of proceeds from our common stock public offering of $134.6 million (net of underwriting discounts and stock issuance costs of $9.2 million) and proceeds from the exercise of stock options and employee stock purchases under the ESPP of $5.0 million.

During the year ended December 31, 2017, cash provided by financing activities was $23.8 million, which primarily consisted of proceeds received from the issuance of common stock to Amgen pursuant to a stock purchase of $20.0 million and proceeds from the exercise of stock options and ESPP of $3.8 million.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2019 (in thousands):

	Payments Due by Period(4)					
	2020	2021	2022	2023	2024+	Total
Operating leases(1)	$ 4,990	$ 5,129	$ 5,273	$ 5,420	$ 15,689	$ 36,501
Royalty obligations(2)	150	—	—	—	—	150
License maintenance fees(3)	750	750	750	750	5,625	8,625
Total contractual obligations	$ 5,890	$ 5,879	$ 6,023	$ 6,170	$ 21,314	$ 45,276

(1) We lease our current facility under a long-term operating lease, which expires in 2026. The lease provides us with one option to extend the lease term for a period of five years at the then fair market rental value.

(2) We have royalty obligations under the terms of certain exclusive licensed patent rights. The royalty obligations are cancellable any time by giving notice to the licensor, with the termination being effective 60 days after giving notice. See Part II. Item 8. Financial Statements and Supplementary Data, Note 10 - “License Agreement" in the accompanying Notes to the financial statements for more information.

(3) We have annual license maintenance fees under the terms of certain license agreement with UCSB. See Part II. Item 8. Financial Statements and Supplementary Data, Note 10 - “License Agreement” in the accompanying Notes to the financial statements for more information.

(4) This table does not include any milestone payments or royalty payments to third parties as the amounts, timing and likelihood of such payments are not known. See Part II. Item 8. Financial Statements and Supplementary Data, Note 9 - “Research and Collaboration Agreements” in the accompanying Notes to the financial statements for more information.

We enter into agreements in the normal course of business with CROs for clinical trials and with vendors for pre-clinical studies and other services and products for operating purposes, which are cancelable at any time by us, generally upon 30 to 60 days prior written notice. These payments are not included in the above table of contractual obligations. The above table also excludes unrecognized tax benefits of $5.2 million as of December 31, 2019 because these uncertain tax positions, if recognized, would be an adjustment to our deferred tax assets, which are subject to a valuation allowance.

Segment Information

We have one primary business activity and operate as one reportable segment.

Critical Accounting Policies and Estimates

Our management’s discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with United States generally accepted accounting principles (“U.S. GAAP”). The preparation of these financial statements requires our management to make judgments and estimates that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these judgments and estimates under different assumptions or conditions and any such differences may be material. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management’s judgments and estimates.

Revenue Recognition

On January 1, 2018, we adopted Accounting Standards Update, or ASU, No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* using the modified retrospective transition method.

We recognize revenue when our customer obtains control of the promised goods or services, in an amount that reflects the consideration which we have received or expect to receive in exchange for those goods or services.

Our revenues are primarily derived through our license, research, development and commercialization agreements. The terms of these types of agreements may include (i) licenses for our technology or programs, (ii) research and development services, and (iii) services or obligations in connection with participation in research or steering committees. Payments to us under these arrangements typically include one or more of the following: nonrefundable upfront and license fees, research funding, milestone and other contingent payments to us for the achievement of defined collaboration objectives and certain preclinical, clinical, regulatory and sales-based events, as well as royalties on sales of any commercialized products.

We assess whether the promises in its arrangements with customers are considered as distinct performance obligations that should be accounted for separately. Judgment is required to determine whether the license to our intellectual property is distinct from the research and development services or participation on steering committees.

Our collaboration and license agreements may include contingent payments related to specified research, development and regulatory milestones. Such milestone payments are typically payable under the collaborations when the collaboration partner claims or selects a target, or initiates or advances a covered product candidate in preclinical or clinical development, upon submission for marketing approval of a covered product with regulatory authorities; or upon receipt of actual marketing approvals of a covered product or for additional indications. Milestone payments that are not within the control of us or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. In certain agreements, the collaboration partner is solely responsible for meeting the defined collaboration objectives that trigger the contingent payment. At each reporting date, we re-evaluate whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price by using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price in such period of determination.

Our collaboration and license agreements may also include contingent payments related to sales-based milestones. Sales-based milestones are typically payable when annual sales of a covered product reach specified levels. Sales-based milestones are recognized at the later of when the associated performance obligation has been satisfied or when the sales occur. Unlike other contingency payments, such as regulatory milestones, sales-based milestones are not included in the transaction price based on estimates at the inception of the contract, but rather, are included when the sales or usage occur.

The transaction price in each arrangement is allocated to the identified performance obligations based on the relative standalone selling price ("SSP") of each distinct performance obligation, which requires judgment. In instances where SSP is not directly observable, such as when a license or service is not sold separately, SSP is determined using information that may include market conditions and other observable inputs. Due to the early stage of our licensed technology, the license of such technology is typically combined with research and development services and steering committee participation as one performance obligation. In the event that we receive non-cash consideration such as consideration in the form of a research license and research support services from the counterparty, the transaction price of a non-monetary exchange that has commercial substance is estimated based on the fair value of the non-cash consideration received, which may be determined through a valuation analysis.

In certain cases, our performance creates an asset that does not have an alternative use to the customer and we have an enforceable right to payment at all times for performance completed to date. In these cases, we utilize judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. We evaluate the measure of progress each reporting period and, if necessary, we adjust the measure of performance and related revenue recognition. There have been changes in estimates of research service periods and the related estimated FTE hours-to-completion, of certain of our research development programs in 2018 and 2019. Such adjustments have impacted and may continue to impact the amounts and timing of our revenue recognized.

Research and Development Expenses

We record accrued liabilities for estimated costs of research, preclinical and clinical studies and contract manufacturing activities, which are a significant component of research and development expenses. A substantial portion of our ongoing research and development activities is conducted by third-party service providers, including CROs. Our contracts with CROs generally include pass-through costs, such as regulatory expenses, investigator fees, travel costs and other miscellaneous costs. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payments that do not match the periods over which materials or services are provided to us under such contracts. We accrue the costs incurred under agreements with these third parties based on actual work completed in accordance with the respective agreements. In the event we make advance payments, they are recorded as prepaid expenses and recognized as the services are performed. We determine the estimated costs through discussions with internal personnel and external service providers as to the progress of stage of completion of the services and the agreed-upon fees to be paid for such services.

We make significant judgments and estimates in determining the accrual balance in each reporting period. As actual costs become known, we adjust our accruals. Although we do not expect our estimates to be materially different than the actual amounts incurred, such estimates for the status and timing of services performed relative to the actual status and timing of services performed may vary and could result in us reporting amounts that are too high or too low in any one period. Our accrual is dependent, in part, upon the receipt of timely and accurate reporting from CROs and other third-party vendors. Variations in the assumptions used to estimate accruals including, but not limited to, the number of patients enrolled, the rate of patient enrollment and the actual services performed, may vary from our estimates, resulting in adjustments to clinical trial expenses in future periods. Changes in these estimates that result in material changes to our accruals could materially affect our financial condition and results of operations.

Stock-based Compensation

We recognize compensation costs related to stock options granted to employees based on the estimated fair value of the awards on the date of grant and we record forfeitures as they are incurred. We estimate the grant date fair value, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of stock-based awards is expensed on a straight-line basis over the period during which the employee is required to provide service in exchange for the award (generally the vesting period).

We estimate the fair value of our stock-based awards using the Black-Scholes option-pricing model, which requires the input of assumptions. Our assumptions are as follows:

- *Expected term.* The expected term of stock options represents the period that the stock options are expected to remain outstanding and is based on vesting terms, exercise term and contractual lives of the options. The expected term of the ESPP shares is equal to the six-month look-back period;
- *Expected volatility.* The expected stock price volatility for our stock options was derived from the average historical volatilities of our stock price and the stock price of several comparable publicly traded companies within the biotechnology and pharmaceutical industry. We will continue to apply this process until a sufficient amount of historical information of our own stock price becomes available. Volatility for ESPP shares is equal to our stock price's historical volatility over a six-month period;
- *Risk-free interest rate.* The risk-free interest rate is based on the U.S. Treasury yield with a maturity equal to the expected term of the stock option in effect at the time of grant; and
- *Dividend yield.* The expected dividend is assumed to be zero as we have never paid dividends and have no current plans to pay any dividends on our common stock.

On January 2019, the Company adopted ASU No. 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting.* Under this new standard, stock options granted to non-employees as consideration for services received are measured on the date of grant using the Black-Scholes option-pricing model. The related grant date fair values of stock options are expensed on a straight-line basis over the period, generally the vesting period, during which the non-employee is required to provide service in exchange for the award.

Prior to the adoption of ASU 2018-07, stock-based compensation expense for options granted to non-employees as consideration for services received was measured on the date of performance at the fair value of the consideration received or the fair value of the equity instruments issued, using the Black-Scholes option-pricing model, whichever can be more reliably measured. Stock-based compensation expense for options granted to non-employees was periodically remeasured as the underlying options vest.

Income Taxes

We account for income taxes using an asset and liability approach. Deferred tax assets and liabilities reflect the net tax effects of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. We record a valuation allowance to reduce our deferred tax assets to reflect the net amount that we believe is more likely than not to be realized. Realization of our deferred tax assets is dependent on the generation of future taxable income, the amount and timing of which are uncertain. The valuation allowance requires an assessment of both positive and negative evidence when determining whether it is more likely than not that deferred tax assets are recoverable. Based upon the weight of available evidence at December 31, 2019, we continue to maintain a full valuation allowance against all of our deferred tax assets after management considered all available evidence, both positive and negative, including but not limited to our historical operating results, income or loss in recent periods, cumulative income in recent years, forecasted earnings, future taxable income, and significant risk and uncertainty related to forecasts.

We recognize the tax effects of an uncertain tax position only if it is more likely than not that it will be sustained based solely on its technical merits as of the reporting date and only in an amount more likely than not that it will be sustained upon review by the tax authorities. We evaluate uncertain tax positions on a quarterly basis and adjust the liability for changes in facts and circumstances, such as new regulations or interpretations by the taxing authorities, including the 2017 Tax Cuts and Jobs Act ("Tax Act"), new information obtained during a tax examination, significant amendment to an existing tax law, or resolution of an examination. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the income tax provision in the period in which such determination is made. The resolution of our uncertain income tax positions is dependent on uncontrollable factors such as law changes, new case law, and the willingness of the income tax authorities to settle, including the timing thereof and other factors. Although we do not anticipate significant changes to our uncertain income tax positions in the next twelve months, items outside of our control could cause our uncertain income tax positions to change in the future, which would be recorded in our statements of operations. Interest and/or penalties related to income tax matters are recognized as a component of income tax expense.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily relate to interest rate risks. We had cash, cash equivalents and short-term investments of $296.1 million and $436.1 million as of December 31, 2019 and 2018, respectively, which consists of bank deposits, money market funds and U.S. government bonds. Such interest-bearing instruments carry a degree of interest rate risk; however, historical fluctuations of interest income have not been significant.

We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate exposure. We have not historically been exposed to material risks due to changes in interest rates. Based on our investment positions as of December 31, 2019, a hypothetical 100 basis point change in interest rates would not have material effect in the fair value of the portfolio. Any changes would only be realized if we sold the investments prior to maturity.

Item 8. ***Financial Statements and Supplementary Data***

CYTOMX THERAPEUTICS, INC.
ANNUAL REPORT ON FORM 10-K
INDEX TO AUDITED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of CytomX Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of CytomX Therapeutics, Inc. (the Company) as of December 31, 2019 and 2018, the related statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles

We also have 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, 2019, based on criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 27, 2020 expressed an unqualified opinion thereon.

Adoption of ASU No. 2016-02

As discussed in Note 3 to the financial statements, the Company changed its method for accounting for leases as a result of the adoption of Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)*, using the modified retrospective transition method effective January 1, 2019.

Adoption of ASU No. 2014-09

As discussed in Note 2 to the financial statements, the Company changed its method for recognizing revenue as a result of the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, using the modified retrospective transition method effective January 1, 2018.

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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Accounting for revenue and collaboration agreements

Description of the Matter

The Company recorded revenue from collaboration agreements of $57.4 million for the year ended December 31, 2019. As described in Note 2, the terms of the Company's collaboration agreements may include licenses for the Company's technology or programs, research and development services, and services or obligations in connection with participation in research or steering committees. Amounts received under these arrangements typically include nonrefundable upfront payments and license fees, research funding, milestone and other contingent payments for the achievement of defined collaboration objectives and certain preclinical, clinical, regulatory and sales-based events, as well as royalties on sales of any commercialized products.

Auditing the Company's accounting for revenues from collaboration arrangements was complex and required significant judgments primarily in identifying which elements represent revenue producing performance obligations, determining the measurement and allocation of arrangement consideration, and evaluating estimates of the total expected inputs under the input method for revenue recognized over time.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's processes for assessing the accounting treatment of its collaboration arrangements, including controls over the review of contracts and accounting conclusions, as well as controls over the completeness and accuracy of the data used. We also tested the controls over the development of estimated total inputs for revenue recognized over time.

To test the accounting treatment for revenue from collaboration arrangements, we evaluated, among other things, whether the identified performance obligations were properly determined, and the transaction price was properly measured and allocated to the identified performance obligations. To test the measurement of efforts toward satisfying the performance obligation, our audit procedures included, among others, reviewing management's analysis for accuracy and completeness by agreeing data to the underlying contract, inspecting communications with the collaborative partner, evaluating the application of the input method for the recognition of revenue and testing the estimated total inputs and actual inputs incurred.

/s/ Ernst & Young LLP
We have served as the Company's auditor since 2017.
Redwood City, California
February 27, 2020

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of CytomX Therapeutics, Inc.

Opinion on Internal Control over Financial Reporting

We have audited CytomX Therapeutics, Inc.'s internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, CytomX Therapeutics, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the balance sheets of the Company as of December 31, 2019 and 2018, the related statements of operations and comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and our report dated February 27, 2020 expressed an unqualified opinion thereon.

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 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.

/s/ Ernst & Young LLP
Redwood City, California
February 27, 2020

CYTOMX THERAPEUTICS, INC.
BALANCE SHEETS
(in thousands, except share and per share data)

	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 188,425	$ 247,577
Short-term investments	107,720	188,550
Accounts receivable	13	97
Prepaid expenses and other current assets	7,177	9,251
Total current assets	303,335	445,475
Property and equipment, net	7,372	6,934
Intangible assets, net	1,312	1,458
Goodwill	949	949
Restricted cash	917	917
Operating lease right-of-use asset	25,382	—
Other assets	2,015	1,375
Total assets	$ 341,282	$ 457,108
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 4,158	$ 5,132
Accrued liabilities	30,051	26,724
Income tax payable	—	13,339
Deferred revenues, current portion	51,381	52,713
Total current liabilities	85,590	97,908
Deferred revenue, net of current portion	178,858	225,267
Operating lease liabilities - long term	24,871	—
Other long-term liabilities	850	3,050
Total liabilities	290,169	326,225
Commitments and contingencies (Note 11)		
Stockholders' equity		
Convertible preferred stock, $0.00001 par value; 10,000,000 shares authorized at December 31, 2019 and 2018; no shares issued and outstanding at December 31, 2019 and 2018, respectively	—	—
Common stock, $0.00001 par value; 75,000,000 shares authorized at December 31, 2019 and 2018; 45,523,088 and 45,083,209 shares issued and outstanding at December 31, 2019 and 2018, respectively	1	1
Additional paid-in capital	468,285	445,956
Accumulated other comprehensive income (loss)	57	(93)
Accumulated deficit	(417,230)	(314,981)
Total stockholders' equity	51,113	130,883
Total liabilities and stockholders' equity	$ 341,282	$ 457,108

See accompanying notes to financial statements

CYTOMX THERAPEUTICS, INC.
STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(in thousands, except share and per share data)

	Year Ended December 31,		
	2019	2018	2017
Revenues	$ 57,489	$ 59,502	$ 71,623
Operating expenses:			
Research and development	131,619	103,866	92,277
General and administrative	36,765	33,510	25,605
Total operating expenses	168,384	137,376	117,882
Loss from operations	(110,895)	(77,874)	(46,259)
Interest income	8,365	7,641	2,674
Other expense, net	(135)	(68)	(27)
Loss before income taxes	(102,665)	(70,301)	(43,612)
Provision for (benefit from) income taxes	(427)	14,303	(513)
Net loss	$ (102,238)	$ (84,604)	$ (43,099)
Net loss per share, basic and diluted	$ (2.26)	$ (2.03)	$ (1.16)
Shares used to compute net loss per share, basic and diluted	45,335,927	41,664,382	37,166,830
Other comprehensive income (loss):			
Changes in unrealized gain (loss) on short-term investments, net of tax	139	1	(67)
Impact of adoption of new accounting pronouncement	11	—	—
Total comprehensive loss	$ (102,088)	$ (84,603)	$ (43,166)

See accompanying notes to financial statements

CYTOMX THERAPEUTIC, INC.
Statements of Stockholders' Equity
(in thousands, except share and per share data)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income/(Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2016	36,490,169	$ 1	$ 254,871	$ (27)	$ (176,366)	$ 78,479
Exercise of stock options	764,576	—	3,165	—	—	3,165
Issuance of common stock under the Employee Stock Purchase Plan	67,746	—	674	—	—	674
Issuance of common stock pursuant to the Amgen Stock Purchase Agreement	1,156,069	—	19,457	—	—	19,457
Stock-based compensation	—	—	11,287	—	—	11,287
Other comprehensive income	—	—	—	(67)	—	(67)
Net loss	—	—	—	—	(43,099)	(43,099)
Balance at December 31, 2017	38,478,560	1	289,454	(94)	(219,465)	69,896
Impact of adoption of new accounting pronouncement - ASU 2014-09	—	—	—	—	(10,912)	(10,912)
Issuance of common stock in follow-on offering, net of issuance costs	5,867,347	—	134,596	—	—	134,596
Exercise of stock options	673,382	—	4,156	—	—	4,156
Issuance of common stock under the Employee Stock Purchase Plan	63,920	—	872	—	—	872
Stock-based compensation	—	—	16,878	—	—	16,878
Other comprehensive income	—	—	—	1	—	1
Net loss	—	—	—	—	(84,604)	(84,604)
Balance at December 31, 2018	45,083,209	1	445,956	(93)	(314,981)	130,883
Impact of adoption of new accounting pronouncement - ASU 2018-02	—	—	—	11	(11)	-
Exercise of stock options	146,930	—	633	—	—	633
Issuance of common stock under the Employee Stock Purchase Plan	142,949	—	994	—	—	994
Issuance of common stock to UCSB	150,000	—	1,602	—	—	1,602
Stock-based compensation	—	—	19,100	—	—	19,100
Other comprehensive income	—	—	—	139	—	139
Net loss	—	—	—	—	(102,238)	(102,238)
Balance at December 31, 2019	45,523,088	$ 1	$ 468,285	$ 57	$ (417,230)	$ 51,113

See accompanying notes to financial statements

CYTOMX THERAPEUTICS, INC.
STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Cash flows from operating activities:			
Net loss	$ (102,238)	$ (84,604)	$ (43,099)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:			
Amortization of intangible assets	146	146	146
Depreciation and amortization	2,459	1,738	1,516
Amortization of premium (accretion of discount) on investments	(2,228)	(1,701)	371
Stock-based compensation expense	19,100	16,878	11,287
Issuance of common stock in connection with UCSB sublicense fee	1,602	—	—
Non-cash acquisition of in process research and development asset charged to expense	—	—	10,700
Deferred income taxes	—	—	(513)
Changes in operating assets and liabilities			
Accounts receivable	84	10,042	(7,980)
Related party accounts receivable	—	—	154
Prepaid expenses and other current assets	2,074	(4,899)	(456)
Other assets	(640)	(20)	1,618
Accounts payable	(374)	261	(2,441)
Accrued liabilities, income tax payable and other long-term liabilities	(12,724)	24,833	9,157
Deferred revenue	(47,741)	(38,195)	189,913
Net cash (used in) provided by operating activities	(140,480)	(75,521)	170,373
Cash flows from investing activities:			
Purchases of property and equipment	(3,497)	(3,788)	(1,559)
Purchases of short-term investments	(174,992)	(204,601)	(218,707)
Maturities of short-term investments	258,190	214,315	99,000
Net cash provided by (used in) investing activities	79,701	5,926	(121,266)
Cash flows from financing activities:			
Proceeds from issuance of common stock, net of issuance costs	—	134,596	19,957
Proceeds from employee stock purchase plan and exercise of stock options	1,627	5,028	3,839
Net cash provided by financing activities	1,627	139,624	23,796
Net (decrease) increase in cash, cash equivalents and restricted cash	(59,152)	70,029	72,903
Cash, cash equivalents and restricted cash, beginning of year	248,494	178,465	105,562
Cash, cash equivalents and restricted cash, end of year	$ 189,342	$ 248,494	$ 178,465
Supplemental disclosures of cash flow information:			
Cash paid for income taxes	$ 13,061	$ —	$ —
Supplemental disclosures of noncash investing items:			
Purchases of property and equipment in accounts payable and accrued liabilities	$ 428	$ 1,027	$ 361

See accompanying notes to financial statements

1. Description of the Business

CytomX Therapeutics, Inc. (the "Company") is a clinical-stage, oncology-focused biopharmaceutical company with a vision of transforming lives with safer, more effective therapeutics. The Company is pioneering a novel class of investigational antibody therapeutics, based on its Probody® therapeutic technology platform, for the treatment of cancer. The Probody therapeutic approach is designed to more specifically target antibody therapeutics to the tumor microenvironment and minimize drug activity in healthy tissue and in circulation. The Company is located in South San Francisco, California and was incorporated in the state of Delaware in September 2010.

2. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP").

Use of Estimates

The preparation of the financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Concentration of Credit Risk and Other Risks and Uncertainties

The Company is subject to a number of risks similar to other biopharmaceutical companies in the early stage, including, but not limited to, the need to obtain adequate additional funding, possible failure of preclinical testing or clinical trials, the need to obtain marketing approval for its product candidates, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of the Company's products, and protection of proprietary technology. If the Company does not successfully obtain regulatory approval, commercialize or partner any of its product candidates, it will be unable to generate revenue from product sales or achieve profitability.

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents, short-term investments and accounts receivable. Substantially all the Company's cash is held by one financial institution. Such deposits may, at times, exceed federally insured limits. The Company invests its cash equivalents and short-term investments in highly rated money market funds and its short-term investments in U.S. Government Bonds.

Customers and collaboration partners who represent 10% or more of the Company's total revenue during each period presented or accounts receivable balance at each respective balance sheet date are as follows (in thousands):

	Revenue			Accounts Receivable, net	
	Year Ended December 31,			December 31,	
	2019	2018	2017	2019	2018
AbbVie Ireland Unlimited Company	$ 5,878	$ 18,997	$ 19,434	$ —	$ —
Bristol-Myers Squibb Company	47,740	32,780	36,492	13	97
ImmunoGen, Inc.	—	*	12,503	—	—
Total revenue from customers who represent 10% or more of the Company's total revenue	$ 53,618	$ 51,777	$ 68,429	$ 13	$ 97

* Revenue from the customer was less than 10% of the Company's total revenue for the respective periods presented.

All of the Company's customers are located in the United States of America.

Segments

Management has determined that it has one business activity and operates as one operating segment as it only reports financial information on an aggregate basis to its chief executive officer and principal financial officer, who are the Company's chief operating decision makers. All long-lived assets are maintained in the United States of America.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of three months or less at the date of purchase to be cash equivalents.

Restricted Cash

Restricted cash represents a standby letter of credit issued pursuant to an office lease entered in December 2015.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the balance sheets that sum to the total of the amounts shown in the statement of cash flows (in thousands):

	December 31	
	2019	2018
Cash and cash equivalents	$ 188,425	$ 247,577
Restricted cash	917	917
	$ 189,342	$ 248,494

Short-term Investments

All investments have been classified as “available-for-sale” and are carried at fair value as determined based upon quoted market prices or pricing models for similar securities at period end. Generally, those investments with contractual maturities greater than 12 months are considered long-term investments. Unrealized gains and losses, deemed temporary in nature, are reported as a component of accumulated other comprehensive income (loss), net of tax.

A decline in the fair value of any security below cost that is deemed other than temporary results in a charge to earnings and the corresponding establishment of a new cost basis for the security. The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity. Dividend and interest income are recognized when earned. Realized gains and losses are included in earnings and are derived using the specific identification method for determining the cost of securities sold.

Property and Equipment, net

Property and equipment are recorded at cost net of accumulated depreciation and amortization. Depreciation is provided using the straight-line method over the estimated useful lives of the respective assets. The useful lives of property and equipment are as follows:

Machinery and equipment	5 years
Computer equipment and software	3 years
Furniture and fixtures	3 years
Leasehold improvements	Shorter of remaining lease term or estimated life of the assets

Maintenance and repairs that do not extend the life or improve the asset are expensed when incurred.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price paid over the fair value of tangible and identifiable intangible assets acquired in business combinations. Goodwill and other intangible assets with indefinite lives are not amortized, but are assigned to reporting units and tested for impairment annually, or whenever there is an impairment indicator. Intangible assets are comprised of in-process research and development. The Company assesses impairment indicators annually as of December 31 or more frequently, if a change in circumstances or the occurrence of events suggests the remaining value may not be recoverable. Intangible assets that are not deemed to have an indefinite life are amortized over their estimated useful lives. There was no impairment of goodwill or intangible assets identified during the years ended December 31, 2019, 2018 and 2017.

Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (or asset group) may not be recoverable and prior to any goodwill impairment test. An impairment loss is recognized when the total of estimated undiscounted future cash flows expected to result from the use of the asset (or asset group) and its eventual

disposition is less than its carrying amount. Impairment, if any, would be assessed using discounted cash flows or other appropriate measures of fair value. There was no impairment of long-lived assets during the years ended December 31, 2019, 2018 and 2017.

Revenue Recognition

On January 1, 2018, the Company adopted Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which supersedes the revenue recognition requirements in Accounting Standards Codification (ASC) Topic 605, *Revenue Recognition (ASC 605)*, using the modified retrospective transition method applied to those contracts which were not completed as of January 1, 2018. Under the prior revenue recognition standard, milestone payments were recognized when earned and upfront fees were generally recognized as revenue over the research term on a straight-line basis if another method of revenue recognition did not more clearly match the pattern of delivery of goods or services to the customer. Under ASC 606, milestone payments are included in the initial transaction price when it is probable that a significant reversal of the milestone payment will not occur. In addition, the Company can no longer default to the straight-line method as the default method in recognizing revenue for goods or services delivered over time. As such, the amount and timing of revenue recognition for its collaboration agreements changed under ASC 606. The impact of the adoption of ASC 606 was an increase in the balance of deferred revenue and an increase in the accumulated deficit balance of $10.9 million on January 1, 2018 in the Company's Balance Sheet. Results for reporting periods beginning after January 1, 2018 are presented under ASC 606, while prior period amounts have not been adjusted and continue to be reported in accordance with our historic accounting under ASC 605.

The Company's revenues are primarily derived through its license, research, development and commercialization agreements. The terms of these types of agreements may include (i) licenses for the Company's technology or programs, (ii) research and development services, and (iii) services or obligations in connection with participation in research or steering committees. Payments to the Company under these arrangements typically include one or more of the following: nonrefundable upfront and license fees, research funding, milestone and other contingent payments to the Company for the achievement of defined collaboration objectives and certain preclinical, clinical, regulatory and sales-based events, as well as royalties on sales of any commercialized products.

The Company assesses whether the promises in its arrangements with customers are considered as distinct performance obligations that should be accounted for separately. Judgment is required to determine whether the license to the Company's intellectual property is distinct from the research and development services or participation on steering committees.

The Company's collaboration and license agreements may include contingent payments related to specified research, development and regulatory milestones. Such milestone payments are typically payable under the collaborations when the collaboration partner claims or selects a target, or initiates or advances a covered product candidate in preclinical or clinical development, upon submission for marketing approval of a covered product with regulatory authorities; or upon receipt of actual marketing approvals of a covered product or for additional indications. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. At each reporting date, the Company re-evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price by using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price in such period of determination.

The Company's collaboration and license agreements may also include contingent payments related to sales-based milestones. Sales-based milestones are typically payable when annual sales of a covered product reach specified levels. Sales-based milestones are recognized at the later of when the associated performance obligation has been satisfied or when the sales occur. Unlike other contingency payments, such as regulatory milestones, sales-based milestones are not included in the transaction price based on estimates at the inception of the contract, but rather, are included when the sales or usage occur.

The transaction price in each arrangement is allocated to the identified performance obligations based on the relative standalone selling price ("SSP") of each distinct performance obligation, which requires judgment. In instances where SSP is not directly observable, such as when a license or service is not sold separately, SSP is determined using information that may include market conditions and other observable inputs. Due to the early stage of the Company's licensed technology, the license of such technology is typically combined with research and development services and steering committee participation as one performance obligation. In the event that the Company receives non-cash consideration such as consideration in the form of a research license and research support services from the counterparty, the transaction price of a non-monetary exchange that has commercial substance is estimated based on the fair value of the non-cash consideration received, which may be determined through a valuation analysis.

In certain cases, the Company's performance creates an asset that does not have an alternative use to the customer and the Company has an enforceable right to payment at all times for performance completed to date. In these cases, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

AbbVie Ireland Unlimited Company ("AbbVie"), one of the Company's collaboration partners, entered into a license agreement with Seattle Genetics, Inc. ("SGEN") to license certain intellectual property rights. As part of the Company's collaboration agreement with AbbVie, the Company pays SGEN sublicense fees. These sublicense fees are treated as reductions to the transaction price and combined with the performance obligation to which they relate.

Comprehensive Loss

Comprehensive loss represents all changes in stockholders' equity except those resulting from distributions to stockholders. The Company's unrealized gains and losses on short-term investments and impact of adoption of new accounting pronouncements during the period represents the components of other comprehensive income (loss) that is excluded from the reported net loss.

Contract Balances

Customer payments are recorded as deferred revenue upon receipt or when due and may require deferral of revenue recognition to a future period until the Company satisfies its performance obligations under these arrangements. Amounts payable to the Company are recorded as accounts receivable when the Company's right to consideration is unconditional.

Stock-Based Compensation

The Company measures its stock-based awards made to employees based on the fair values of the awards as of the grant date using the Black-Scholes option-pricing model. Stock-based compensation expense is recognized over the requisite service period using the ratable method and is based on the value of the portion of stock-based payment awards that is ultimately expected to vest. Forfeitures are recognized as they occur.

On January 2019, the Company adopted ASU No. 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting.* Under this new standard, stock options granted to non-employees as consideration for services received are measured on the date of grant using the Black-Scholes option-pricing model. The related grant date fair values of stock options are expensed on a straight-line basis over the period, generally the vesting period, during which the non-employee is required to provide service in exchange for the award.

Prior to the adoption of ASU 2018-07, such stock-based compensation expense was measured on the date of performance at the fair value of the consideration received or the fair value of the equity instruments issued, using the Black-Scholes option-pricing model, whichever can be more reliably measured. Stock-based compensation expense for options granted to non-employees was periodically remeasured as the underlying options vest.

Income Taxes

The Company accounts for income taxes using an asset and liability approach. Deferred tax assets and liabilities reflect the net tax effects of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The Company records a valuation allowance to reduce its deferred tax assets to reflect the net amount that it believes as more likely than not to be realized. Realization of the deferred tax assets is dependent on the generation of future taxable income, the amount and timing of which are uncertain. The valuation allowance requires an assessment of both positive and negative evidence when determining whether it is more likely than not that deferred tax assets are recoverable. Based upon the weight of available evidence at December 31, 2019, the Company continues to maintain a full valuation allowance against all of its deferred tax assets after management considered all available evidence, both positive and negative, including but not limited to its historical operating results, income or loss in recent periods, cumulative income in recent years, forecasted earnings, future taxable income, and significant risk and uncertainty related to forecasts.

The Company recognizes the tax effects of an uncertain tax position only if it is more likely than not that it will be sustained based solely on its technical merits as of the reporting date and only in an amount more likely than not that it will be sustained upon review by the tax authorities. The Company evaluates uncertain tax positions on a quarterly basis and adjust the liability for changes in facts and circumstances, such as new regulations or interpretations by the taxing authorities, new information obtained during a tax examination, significant amendment to an existing tax law, or resolution of an examination. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will impact the income tax provision in the period in which such determination is made. The resolution of its uncertain income tax positions is dependent on uncontrollable factors such as law changes, new case law, and the willingness of the income tax authorities to settle, including the timing thereof and other factors. Although the Company does not anticipate significant changes to its uncertain income tax positions in the next twelve months, items outside of its control could cause its uncertain income tax positions to change in the future, which would be recorded in its statements of operations. Interest and/or penalties related to income tax matters are recognized as a component of income tax expense.

Research and Development Expenses

The Company records accrued liabilities for estimated costs of research and development activities conducted by third-party service providers, which include the conduct of preclinical and clinical studies, and contract manufacturing activities. The Company records the estimated costs of research and development activities based upon the estimated amount of services provided but not yet invoiced, and includes these costs in accrued liabilities in the balance sheets and within research and development expense in the statements of operations. These costs are a significant component of the Company's research and development expenses. The Company accrues for these costs based on factors such as estimates of the work completed and in accordance with agreements established with its third-party service providers under the service agreements. The Company makes significant judgments and estimates in determining the accrued liabilities balance in each reporting period. As actual costs become known, the Company adjusts its accrued liabilities. The Company has not experienced any material differences between accrued costs and actual costs incurred. However, the status and timing of actual services performed may vary from the Company's estimates, resulting in adjustments to expense in future periods. Changes in these estimates that result in material changes to the Company's accruals could materially affect the Company's results of operations.

Research and development expenses include costs directly attributable to the conduct of research and development programs, including the cost of salaries, payroll taxes, employee benefits, materials, supplies, depreciation on and maintenance of research equipment, the cost of services provided by outside contractors, and the allocated portions of facility costs, such as rent, utilities, insurance, repairs and maintenance, depreciation, and general support services. All costs associated with research and development are expensed as incurred.

In January 2019, the Company acquired certain technology know-how that is complementary to the Company's proprietary Probody technology from a third party for $5.0 million. The Company plans to use this technology in certain of the Company's discovery stage projects, and has concluded that the technology acquired does not have an alternative future use. Accordingly, the $5.0 million has been recorded as research and development expense for 2019.

Leases

The Company determines if an arrangement is or contains a lease at inception. Operating leases are recorded as operating lease right-of-use ("ROU") assets and operating lease liabilities in the Company's balance sheet. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. The Company uses an implicit rate when readily available, or its incremental borrowing rate based on the information available at lease commencement date in determining the present value of lease payments. The operating lease ROU assets also include any lease prepayments made and reduced by lease incentives. The Company's lease terms may include options to extend the lease when it is reasonably certain that such option will be exercised. Lease expenses are recognized on a straight-line basis over the lease term. The Company elected the short-term lease recognition exemption. The Company's operating lease arrangement includes lease and non-lease components which are generally accounted for separately.

3. Adopted and Recent Accounting Pronouncements

Adopted Accounting Pronouncements

Leases

The Company adopted the Accounting Standard Update ("ASU") No. 2016-02, *Leases (Topic 842)* on January 1, 2019, using the modified retrospective approach. This new standard amends the guidance for the accounting and disclosure of leases and requires that

lessees recognize on the balance sheet the assets and liabilities that arise from leases, including leases classified as operating leases under current GAAP, and disclose qualitative and quantitative information about leasing arrangements. In July 2018, the Financial Accounting Standard Board ("FASB") further amended this standard to allow for a new transition method that provides the option to use the effective date as the date of initial application. The Company has elected such option and accordingly the comparative periods are not recast.

The Company has also elected the package of practical expedients permitted under the new standard ("ASC 842"). Accordingly, the Company continues to account for its existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease under ASC 842, (b) whether classification of the operating leases would be different in accordance with ASC 842, or (c) whether the unamortized initial direct costs before transition adjustments would have met the definition of initial direct costs in ASC 842 at lease commencement. In addition, the Company also elected the short-term lease practical expedients allowed under the standard. As a result of the adoption of ASC 842, the Company recorded a right-of-use asset of $28.0 million and a lease liability $30.1 million on January 1, 2019. There was no impact on the Company's accumulated deficit as of the adoption date. This standard does not have material impact on the Company's results of operations or cash flows.

Reclassification of Certain Tax Effects

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*. The amendments in this standard allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act. The Company adopted this standard on January 1, 2019. There was no material impact on its financial statement upon adoption of this ASU and the Company recorded an increase in other comprehensive income of $11,000 against its retained earnings upon adoption.

Nonemployee Share-Based Payment

In June 2018, the FASB issued ASU No. 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*. The amendments in this ASU expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. The Company adopted this standard on January 1, 2019. There was no material impact on its financial statements upon the adoption of this ASU.

Recent Accounting Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The new standard changes the impairment model for most financial assets and certain other instruments. Under the new standard, entities holding financial assets and net investment in leases that are not accounted for at fair value through net income are to be presented at the net amount expected to be collected. An allowance for credit losses will be a valuation account that will be deducted from the amortized cost basis of the financial asset to present the net carrying value at the amount expected to be collected on the financial asset. The new standard will be effective for the Company on January 1, 2020. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The new standard simplifies the measurement of goodwill by eliminating the Step 2 impairment test. Step 2 measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to compare the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. The new guidance becomes effective for goodwill impairment tests in fiscal years beginning after December 15, 2019, though early adoption is permitted. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820)*. The amendments in this ASU modify the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement. Various disclosure requirements have been removed, including the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy, the policy for timing of transfers between levels, the valuation processes for Level 3 fair value measurements held at the end of the reporting period. The ASU also modified various disclosure requirements and added some disclosure requirements for Level 3 fair value measurements. The amendments in this ASU are effective for the Company on January 1, 2020. The additional disclosures 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 should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all

periods presented upon their effective date. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this ASU and delay adoption of the additional disclosures until their effective date. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles-Goodwill and Other- Internal-Use Software (Subtopic 350-40)*. The amendments in this ASU on the accounting for implementation, setup and other upfront costs (collectively "implementation costs") apply to entities that are a customer in a hosting arrangement. The amendments under this ASU 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. Accordingly, the amendments in this ASU require an entity in a hosting arrangement that is a service contract to follow the guidance in Subtopic 350-40 to determine which implementation costs to expense. They also require an entity to expense the capitalized implementation costs of a hosting arrangement that is a service contract over the term of the hosting arrangement. This ASU is effective for the Company on January 1, 2020. The Company is currently evaluating the impact of this new guidance.

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 ASU targeted improvements to generally accepted accounting principles for collaborative arrangements by clarifying that certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606 when the collaborative arrangement participant is a customer in the context of a unit of account. In those situations, all the guidance in Topic 606 should be applied, including recognition, measurement, presentation, and disclosure requirements. In addition, unit-of-account guidance in Topic 808 was aligned with the guidance in Topic 606 (that is, a distinct good or service) when an entity is assessing whether the collaborative arrangement or a part of the arrangement is within the scope of Topic 606. The ASU is effective for the Company on January 1, 2020, and interim periods within those fiscal years. Early adoption is permitted. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

In May 2019, the FASB issued ASU 2019-05, *Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief*, to provide entities with an option to irrevocably elect the fair value option in Subtopic 825-10, applied on an instrument-by-instrument basis for eligible instruments, that are within the scope of Subtopic 326-20, upon adoption of Topic 326. The fair value option election does not apply to held-to-maturity debt securities. This targeted transition relief is intended to increase comparability of financial statement information for some entities that otherwise would have measured similar financial instruments using different measuring methodologies. The effective date of this ASU is the same as ASU No. 2016-13, for the Company on January 1, 2020. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

In November 2019, the FASB issued ASU 2019-08, *Compensation - Stock Compensation (Topic 718) and Revenue from Contracts with Customers (Topic 606): Codification Improvements – Share-Based Consideration Payable to a Customer.* The amendments in this ASU require that an entity measure and classify share-based payment awards granted to a customer by applying the guidance in Topic 718. Under ASC 606, these awards are considered a reduction of the transaction price, unless the awards are payment for a distinct good or service received from the customer and should be recorded as a reduction of the transaction price. However, the ASU requires these awards to be measured on the basis of the grant-date fair value of the share-based payment award in accordance with Topic 718 and should be recognized at the later of when the award is promised and when the entity recognizes revenue for the transfer of the related goods or services in accordance with ASC 606. The grant date is the date at which a grantor (supplier) and a grantee (customer) reach a mutual understanding of the key terms and conditions of a share-based payment award. The classification and subsequent measurement of the award are subject to the guidance in Topic 718 unless the share-based payment award is subsequently modified and the grantee is no longer a customer. The ASU is effective for the Company on January 1, 2020, and interim periods within those fiscal years. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*. The amendments in this ASU simplify the accounting for income taxes by removing certain exceptions to the general principles of ASC 740 in order to reduce cost and complexity of its application. The ASU removes the exception related to the incremental approach for intraperiod tax allocation as well as two exceptions related to accounting for outside basis differences of equity method investments and foreign subsidiaries. The ASU also amends the scope of ASC 740 related to a franchise tax (or similar tax) that is partially based on income; clarifies when a step-up in the tax basis of goodwill should be considered part of the business combination in which the book goodwill was originally recognized and when it should be considered a separate transaction; specifies that an entity is not required to allocate income tax expense to a legal entity that is both not subject to tax and disregarded by the taxing authority; and clarifies that all tax effects, both deferred and current, should be accounted for in the interim period that includes the enactment date. The ASU is effective for the Company on January 1, 2021, and interim periods within those fiscal years. The Company does not expect the adoption of this ASU will have a material impact on its financial statements.

4. Net Loss Per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period. Diluted net loss per share is calculated using the weighted-average number of common shares outstanding, plus potential dilutive common stock during the period. Diluted net loss per share is the same as basic net loss per share since the effect of the potentially dilutive securities is anti-dilutive.

The following weighted-average outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share for the periods presented, because including them would have been anti-dilutive:

	Year Ended December 31,		
	2019	2018	2017
Options to purchase common stock	9,687,844	7,478,755	6,891,123

5. Fair Value Measurements and Short-Term Investments

In accordance with Accounting Standards Codification ("ASC") 820-10, Fair Value Measurements and Disclosures, the Company determines the fair value of financial and non-financial assets and liabilities using the fair value hierarchy, which establishes three levels of inputs that may be used to measure fair value, as follows:

- Level I: Inputs which include quoted prices in active markets for identical assets and liabilities.
- Level II: Inputs other than Level I that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level III: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The carrying amounts of the Company's financial instruments, including restricted cash, accounts receivable, accounts payable and accrued liabilities approximate fair value due to their relatively short maturities. The Company's financial instruments consist of Level I assets which consist primarily of highly liquid money market funds, some of which is included in restricted cash and U.S. government bonds that are included in short-term investments.

The following tables set forth the fair value of the Company's short-term investments subject to fair value measurements on a recurring basis and the level of inputs used in such measurements (in thousands):

		December 31, 2019			
	Valuation Hierarchy	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Aggregate Fair Value
Assets					
Money market funds	Level I	$ 170,757	$ —	$ —	$ 170,757
Restricted cash (money market funds)	Level I	917	—	—	917
U.S. Government bonds	Level I	107,610	110	—	107,720
Total Securities		$ 279,284	$ 110	$ —	$ 279,394

		December 31, 2018			
	Valuation Hierarchy	Amortized Cost	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Aggregate Fair Value
Assets					
Money market funds	Level I	$ 226,979	$ —	$ —	$ 226,979
Restricted cash (money market funds)	Level I	917	—	—	917
U.S. Government bonds	Level I	188,616	—	(66)	188,550
Total Securities		$ 416,512	$ —	$ (66)	$ 416,446

No securities have contractual maturities of longer than one year

6. Property and Equipment

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

	December 31	
	2019	2018
Machinery and equipment	$ 12,124	$ 10,498
Computer equipment and software	1,555	955
Furniture and fixtures	1,024	749
Leasehold improvements	1,483	893
Construction in progress	236	785
	16,422	13,880
Less: accumulated depreciation and amortization	(9,050)	(6,946)
	$ 7,372	$ 6,934

Depreciation and amortization expense was $2.5 million, $1.7 million and $1.5 million for the years ended December 31, 2019, 2018 and 2017, respectively.

7. Goodwill and Intangible Assets

Goodwill and in-process research and development assets resulted from a series of integrated financing transactions in 2010 that was accounted for as a business combination. The in-process research and development relates to the Company's proprietary Probody Platform and was accounted for as an indefinite-lived intangible asset until the underlying project was completed or abandoned. In connection with the collaboration agreements, the Company began amortizing the intangible asset in 2017. The intangible asset is being amortized over the estimated lives of the patents which average 12 years. The amortization expense for the years ended December 31, 2019, 2018 and 2017 was $0.1 million, $0.1 million and $0.1 million, respectively.

Goodwill and intangible assets consisted of the following (in thousands):

Goodwill

	December 31,	
	2019	2018
Goodwill	$ 949	$ 949

Intangible assets

	December 31,	
	2019	2018
In-process research and development	$ 1,750	$ 1,750
Less accumulated amortization	(438)	(292)
	$ 1,312	$ 1,458

8. Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	December 31,	
	2019	2018
Research and clinical expenses	$ 19,006	$ 18,520
Payroll and related expenses	6,721	6,585
Legal and professional expenses	1,062	830
Operating lease liabilities - short term	2,810	—
Other accrued expenses	452	789
Total	$ 30,051	$ 26,724

9. Research and Collaboration Agreements

The following table summarizes the revenue by collaboration partner (in thousands):

	Year Ended December 31,		
	2019	2018	2017
AbbVie	$ 5,878	$ 18,997	$ 19,434
Amgen	3,871	4,899	1,311
Bristol-Myers Squibb	47,740	32,780	36,492
ImmunoGen	-	1,471	12,503
Pfizer	-	1,355	1,883
Total Revenue	$ 57,489	$ 59,502	$ 71,623

AbbVie Ireland Unlimited Company

In April 2016, the Company and AbbVie entered into two agreements, a CD71 Co-Development and Licensing Agreement (the "CD71 Agreement") and a Discovery Collaboration and Licensing Agreement (as amended, the "Discovery Agreement" and together with the CD71 Agreement the "AbbVie Agreements"). Under the terms of the CD71 Agreement, the Company and AbbVie will co-develop a Probody Drug Conjugates ("PDC") against CD71, with the Company responsible for pre-clinical and early clinical development. AbbVie will be responsible for later development and commercialization, with global late-stage development costs shared between the two companies. The Company will assume 35% of the net profits or net losses related to later development unless it opts-out. If the Company opts-out from participation of co-development of the CD71 PDC, AbbVie will have sole right and responsibility for the further development, manufacturing and commercialization of such CD71 PDC.

Under the CD71 Agreement, the Company received an upfront payment of $20.0 million in April 2016, and is eligible to receive up to $470.0 million in development, regulatory and commercial milestone payments, a 35% profit split on U.S. sales, and royalties on ex-U.S. sales in the high teens to low twenties if the Company participates in the co-development of the CD71 Licensed Product subject to a reversion to a royalty on U.S. sales, and reduction in royalties on ex-U.S. sales, if the Company opts-out from the co-development of the CD71 PDC. The Company's share of later stage co-development costs for each CD71 PDC are capped, provided that AbbVie may offset the Company's co-development cost above the capped amounts from future payments such as milestone payments and royalties. In July 2017, the Company received a milestone payment of $14.0 million (net of payment of an associated sublicense fee of $1.0 million to SGEN under the Seattle Genetics Agreement) from AbbVie for achieving certain milestones required to be met to begin GLP toxicology studies under the CD71 Agreement. In May 2018, the United States Food and Drug Administration ("FDA") cleared the IND application for CX-2029, the PDC targeting CD71. As a result, the Company achieved the IND success criteria under the CD71 Agreement and received a $21.0 million milestone payment (net of the payment of an associated sublicense fee of $4.0 million to SGEN). The Company commenced enrollment of its Phase 1/2 clinical trial and dosed the first patient in a clinical trial at the end of the second quarter of 2018.

Under the terms of the Discovery Agreement, AbbVie receives exclusive worldwide rights to develop and commercialize PDCs against up to two targets, one of which was selected in March 2017. The Company shall perform research services to discover the Probody therapeutics and create PDCs for the nominated collaboration targets. From that point, AbbVie shall have sole right and responsibility for development and commercialization of products comprising or containing such PDCs ("Discovery Licensed Products").

Under the Discovery Agreement, the Company received an upfront payment of $10.0 million in April 2016 and subsequently earned an additional $10.0 million milestone payment triggered by selection of the second target by AbbVie in June 2019. The Company is also eligible to receive up to $275.0 million in development, regulatory and commercial milestone payments and royalties in the high single to low teens from commercial sales of any resulting PDCs. The second target was selected under the Amended and Restated Discovery Collaboration and License Agreement entered into in June 2019 that allows AbbVie to select a target for developing a PDC or a Probody.

The Company has determined that the CD71 Agreement and Discovery Agreement with AbbVie should be combined and evaluated as a single arrangement in determining revenue recognition, because both agreements were concurrently negotiated and executed.

The Company identified the following performance obligations at the inception of the AbbVie Agreements:

(1) the research, development and commercialization license for CD71 Probody therapeutic,

(2) the research services related to CD71 Probody therapeutic,

(3) the obligation to participate in the CD71 Agreement joint research committee,

(4) the research services related to the first discovery target

(5) the research, development and commercialization license for the first discovery target, and

(6) the obligation to participate in the Discovery Agreement joint research committee.

The Company concluded that AbbVie's option for the second discovery target was not a material right and was therefore not a performance obligation at the inception of the AbbVie Agreements. However, it was subsequently included in the total transaction price in June 2019 as a performance obligation upon AbbVie's selection of such second target as further discussed below.

The Company determined that the research, development and commercialization licenses for CD71 and discovery targets are not distinct from the Company's respective research services and expertise. The Company considered factors such as novelty of the Probody therapeutic and PDC technology and lack of other parties' expertise in this space, the Company's rights to technology relating to a proprietary platform to enable the Probody therapeutic development and AbbVie's contractual obligation to use the Company's research services. The Company determined that the CD71 Agreement research, development and commercialization license, related research service and participation in the joint research committee were a combined performance obligation and were distinct from the Discovery Agreement research, development and commercialization license, related research service and participation in the joint research committee. Therefore, the Company concluded that there are two distinct performance obligations:

(1) the CD71 Agreement performance obligation consisting of the CD71 Agreement research, development and commercialization license, related research service and participation in the joint research committee, and

(2) the Discovery Agreement performance obligation consisting of the Discovery Agreement research, development and commercialization license, related research service and participation in the joint research committee.

The total transaction price upon adoption of ASC 606 on January 1, 2018 of $39.8 million consists of $30.0 million in upfront payments, $14.0 million milestone payment received (net of the payment of an associated sublicense fee of $1.0 million to SGEN) less $4.2 million of estimated sublicense fees. The upfront payments under the AbbVie Agreements are allocated between the two performance obligations based on the estimated relative standalone selling prices. The $30.0 million of upfront payments is allocated $20.0 million to the CD71 Agreement, with the remaining $10.0 million allocated to the Discovery Agreement. The $14.0 million milestone payment received (net of the payment of an associated sublicense fee of $1.0 million to SGEN) and estimated sublicense fees of $4.2 million are allocated to the CD71 Agreement performance obligation as they are directly related to the development of the CD71 Probody therapeutic.

In May 2018, the Company earned a $21.0 million milestone payment (net of the payment of an associated sublicense fee of $4.0 million to SGEN) under the CD71 Agreement. The $21.0 million milestone payment was included as part of the transaction price in May 2018 and a revenue adjustment of $9.9 million was recognized in the second quarter of 2018 reflecting the percentage completed to-date on the project related to this milestone. The Company determined that the remaining potential milestone payments are probable of significant revenue reversal as their achievement is highly dependent on factors outside the Company's control. Therefore, these payments have been fully constrained and were not included in the transaction price as of December 31, 2019.

The Company is obligated to make sublicense payments under the license agreement with the Regents of the University of California, acting through its Santa Barbara campus ("UCSB"), as amended, equal to 7.5% of certain upfront and milestone payments owed to or received by the Company. As of December 31, 2019 and 2018, the Company recorded accrued sublicense fees of zero and $1.1 million, respectively, under the UCSB Agreement.

Of the $39.8 million total initial transaction price, the Company allocated $29.8 million to the CD71 Agreement performance obligation and recognized revenue using a cost-based input measure, the common measure of progress for the performance obligation. In applying the cost-based input method, revenue is recognized based on actual full-time employee ("FTE") hours incurred as a percentage of total estimated FTE hours for completing its combined performance obligation over the estimated service period. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. During 2019, as a result of ongoing dose escalation in the continued development program, there has been a change in estimates of the research service period as well as an increase in the projected FTE hours-to-completion. The research service period for the CD71 Agreement performance obligation is extended from April 2021 to March 2022.

The remaining $10.0 million of the total initial transaction price of $39.8 million allocated to the Discovery Agreement performance obligation represents an obligation to continuously make the Company's Probody therapeutic technology platform available to AbbVie. The $10.0 million is recognized using the common measure of progress for the entire performance obligation over the estimated research service period of five years through April 2021.

In June 2019, the Company earned a $10.0 million milestone payment for the second target selected by AbbVie under the Discovery Agreement. It is recognized also using the common measure of progress of the related obligation over the estimated research service period of five years through June 2024.

The Company recognized revenue of $5.9 million, $19.0 million and $19.4 million for 2019, 2018 and 2017, respectively, related to the AbbVie Agreements. As of December 31, 2019 and 2018, deferred revenue related to the CD71 Agreement performance obligation was $20.0 million and $23.2 million, respectively, and deferred revenue related to the Discovery Agreement performance obligation was $11.6 million and $4.7 million, respectively. As of both December 31, 2019 and 2018, no amount was due from AbbVie under the CD71 Agreement and the Discovery Agreement.

Amgen, Inc.

On September 29, 2017, the Company and Amgen, Inc. ("Amgen") entered into a Collaboration and License Agreement (the "Amgen Agreement"). Pursuant to the Amgen Agreement, the Company received an upfront payment of $40.0 million in October 2017. Concurrent with the entry into the Amgen Agreement, the Company and Amgen entered into a Share Purchase Agreement (the "Purchase Agreement") pursuant to which Amgen purchased 1,156,069 shares of the Company's common stock at a price of $17.30 per share (calculated based on a 20-day volume-weighted average price), for total proceeds of $20.0 million, which the Company received on October 6, 2017, the closing date of the transaction. The Company estimated a premium on the stock sold to Amgen of $0.5 million, which takes into account a discount due to the lack of marketability resulting from the six-month lockup period.

Under the terms of the Amgen Agreement, the Company and Amgen will co-develop a Probody T-cell engaging bi-specific therapeutic targeting epidermal growth factor receptor (the "EGFR Products"). The Company is responsible for early-stage development of EGFR Products and all related costs up to certain pre-set costs and certain limits based on clinical trial size. Amgen will be responsible for late-stage development, commercialization, and all related costs of EGFR Products. Following early-stage development, the Company will have the right to elect to participate financially in the global co-development of EGFR Products with Amgen, during which the Company would bear certain of the worldwide development costs for EGFR Products and Amgen would bear the rest of such costs (the "EGFR Co-Development Option"). If the Company exercises its EGFR Co-Development Option, the Company will share in somewhat less than 50% of the profit and losses from sales of such EGFR Products in the U.S., subject to certain caps, offsets, and deferrals. If the Company chooses not to exercise its EGFR Co-Development Option, the Company will not bear any costs of later stage development. The Company is eligible to receive up to $455.0 million in development, regulatory, and commercial milestone payments for EGFR Products, and royalties in the low-double-digit to mid-teen percentage of worldwide commercial sales, provided that if the Company exercises its EGFR Co-Development option, it shall receive a profit and loss split of sales in the United States and royalties in the low-double-digit to mid-teen percentage of commercial sales outside of the United States.

Amgen also has the right to select a total of up to three targets, including the two additional targets discussed below. The Company and Amgen collaborate in the research and development of Probody T-cell engaging bi-specifics products directed against such targets. Amgen has selected one such target (the "Amgen Other Product"). If Amgen exercises its option within a specified period of time, it can select two such additional targets (the "Amgen Option Products" and, together with the Amgen Other Product, the "Amgen Products"). Except with respect to preclinical activities to be conducted by CytomX, Amgen will be responsible, at its expense, for the development, manufacture, and commercialization of all Amgen Products. If Amgen exercises all of its options and advances all three of the Amgen Products, CytomX is eligible to receive up to $950.0 million in upfront, development, regulatory, and commercial milestones and tiered high single-digit to low-teen percentage royalties. The Company concluded that, at the inception of the agreement, Amgen's option to select the two additional targets is not a material right and does not represent a performance obligation of the agreement.

At the initiation of the collaboration, CytomX had the option to select, from programs specified in the Amgen Agreement, an existing pre-clinical stage T-cell engaging bispecific product from the Amgen pre-clinical pipeline. In March 2018, CytomX selected the program. CytomX is responsible, at its expense, for converting this program to a Probody T-cell engaging bispecific product, and thereafter, will be responsible for development, manufacturing, and commercialization of the product ("CytomX Product"). Amgen is eligible to receive up to $203.0 million in development, regulatory, and commercial milestone payments for the CytomX Product, and tiered mid-single digit to low double-digit percentage royalties.

The Company considered the criteria for combining contracts in ASC 606 and determined that the Amgen Agreement and the Purchase Agreement should be combined into one contract. The Company accounted for the Amgen Agreement based on the fair values of the assets and services exchanged. The Company identified the following performance obligations at the inception of the Amgen Agreement:

(1) the research, development and commercialization license,

(2) the research and development services for the EGFR Products and the Amgen Other Product, and

(3) the obligation to participate in the joint steering committee ("JSC") and the joint research committee ("JRC").

The Company determined that research, development and commercialization license and the participation in the JSC and JRC are not distinct from the research and development services and therefore those performance obligations were combined into one combined performance obligation. The Amgen Other Products are accounted for as a separate performance obligation from the EGFR Products as the nature of the services being performed is not the same and the value that Amgen can derive from one program is not dependent on the success of the other. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Concurrent with the execution of the Amgen Agreement, the Company entered into a sublicense agreement whereby the Company granted Amgen a sublicense of its rights to one patent family that it co-owns with UCSB, that is exclusively licensed to the Company under the UCSB Agreement covering Probody antibodies and other pro-proteins in the fields of therapeutics, in vivo diagnostics and prophylactics. This sublicense was incremental to the patents, patent applications and know-how covering T-cell engaging bispecific Probody molecules that were developed and owned by the Company and licensed to Amgen. Under the UCSB Agreement, as amended, the Company is obligated to make a sublicense payment to UCSB equal to 7.5% of certain upfront and milestone payments owed to or received by the Company. As of December 31, 2019 and 2018, the Company recorded liabilities of zero and $2.1 million, respectively, representing the sublicense fee payable to UCSB.

The total transaction price of $51.2 million, consisting of the $40.0 million upfront payment, an estimated fair value of $10.7 million for the CytomX Product and $0.5 million of premium on the sale of the Company's common stock, was allocated between the two performance obligations based on the relative standalone selling price of each performance obligation. To determine the standalone selling price, the Company used the discounted cash flow method by calculating risk-adjusted net present values of estimated cash flows. The Company determined that the remaining potential milestone payments were probable of significant revenue reversal as their achievement was highly dependent on factors outside the Company's control. As a result, these payments were fully constrained and were not included in the transaction price as of January 1, 2018, the adoption date of ASC 606.

Of the $51.2 million total transaction price, the Company allocated $46.4 million to the EGFR Products performance obligation and $4.8 million to the Amgen Other Product performance obligations. The transaction price of the EGFR Product performance obligation was recognized using a cost-based input measure. In applying the cost-based input method of revenue recognition, the Company uses actual FTE hours incurred relative to estimated FTE hours expected to be incurred for the combined performance obligation over the research service period. In the fourth quarter of 2018, the JSC officially terminated any further work on two molecules that did not meet required research criteria. Pre-clinical evaluation of additional molecules has been ongoing as part of the candidate identification phase of the EGFR project, and as a result, there was a change in estimate of the FTE hours-to-completion and research service period to seven years during the fourth quarter of 2018. At the end of the second quarter of 2019, the Company determined it will undertake additional testing and assessment of the molecules being evaluated under the EGFR project. As a result, the estimated FTE hours-to-completion and research service period was further increased to eight years.

The $4.8 million transaction price allocated to the Amgen Other Product performance obligation represents an obligation to continuously make the Probody therapeutic technology platform available to Amgen, which is recognized over the common measure of progress for the entire performance obligation over the estimated research service period of six years.

The Company recognized revenue of $3.9 million, $4.9 million and $1.3 million for the years ended December 31, 2019, 2018 and 2017, respectively, related to the Amgen Agreement. As of December 31, 2019 and 2018, deferred revenue related to the EGFR Products performance obligation was $37.6 million and $40.7 million, respectively. As of December 31, 2019 and 2018, deferred revenue related to the Amgen Other Products performance obligation was $3.0 million and $3.8 million, respectively. As of December 31, 2019 and 2018, no amount was due from Amgen under the Amgen Agreement.

Bristol-Myers Squibb Company

On May 23, 2014, the Company and Bristol-Myers Squibb Company ("Bristol-Myers Squibb") entered into a Collaboration and License Agreement (the "BMS Agreement") to discover and develop compounds for use in human therapeutics aimed at multiple immuno-oncology targets using the Company's Probody therapeutic technology. The effective date of the BMS Agreement was July 7, 2014.

Under the terms of the BMS Agreement, the Company granted Bristol-Myers Squibb exclusive worldwide rights to develop and commercialize Probody therapeutics for up to four oncology targets. Bristol-Myers Squibb had additional rights to substitute up to two collaboration targets within three years of the effective date of the BMS Agreement. These rights expired in May 2017. Each collaboration target had a two-year research term and the two additional targets had to be nominated by Bristol-Myers Squibb within

five years of the effective date of the BMS Agreement. The research term for each collaboration target could be extended in one year increments up to three times.

Pursuant to the BMS Agreement, the financial consideration from Bristol-Myers Squibb was comprised of an upfront payment of $50.0 million and the Company was initially entitled to receive contingent payments of up to an aggregate of $1,217.0 million as follows: (i) up to $25.0 million for additional targets; (ii) up to $114.0 million in development milestone payments per research target program or up to $456.0 million if the maximum of four research targets are selected; (iii) up to $124.0 million in milestone payments for the first commercial sale in various territories for up to three indications per research target program or up to $496.0 million if the maximum of four research targets are selected, and (iv) up to $60.0 million in sales milestones payments per research target program or up to $240.0 million if maximum of four research targets are selected. The Company is entitled to royalty payments in the mid-single digits to low double-digit percentages from potential future sales. The Company also receives research and development service fees based on a prescribed FTE rate that is capped.

The Company identified the following performance obligations at the inception of the BMS Agreement:

(1) the exclusive research, development and commercialization license,

(2) the research and development services and

(3) the obligation to participate in the joint research committee.

The Company determined that the license, the Company's research services and expertise related to the development of the product candidates should be combined with the research services and participation in the joint research committee as one combined performance obligation. The Company concluded that, at the inception of the agreement, Bristol-Myers Squibb's options for the third and fourth targets were not material rights and not performance obligations. As such, each option was accounted for as a separate arrangement upon exercise. Additionally, the Company considered whether the services performed for each target should be considered as separate performance obligations and concluded that all targets should be accounted for as one combined performance obligation.

The Company received an upfront payment of $50.0 million from Bristol-Myers Squibb in July 2014. In January and December 2016, Bristol-Myers Squibb selected the third and fourth targets, respectively, and paid the Company $10.0 million and $15.0 million, respectively, pursuant to the terms of the BMS Agreement. In December 2016, Bristol-Myers Squibb selected a clinical candidate pursuant to the BMS Agreement, which triggered a $2.0 million pre-clinical milestone payment to the Company. In November 2017, the Company recognized a $10.0 million milestone payment from Bristol-Myers Squibb upon approval of the investigational new drug application for the CTLA-4-directed Probody therapeutic.

On March 17, 2017, the Company and Bristol-Myers Squibb entered into Amendment Number 1 to Extend Collaboration and License Agreement (the "BMS Amendment"). The BMS Amendment grants Bristol-Myers Squibb exclusive worldwide rights to develop and commercialize Probody therapeutics for up to six additional oncology targets and two non-oncology targets. The effective date of the BMS Amendment was April 25, 2017 ("Amendment Effective Date"). Under the terms of the BMS Amendment, the Company continues to collaborate with Bristol-Myers Squibb to discover and conduct preclinical development of Probody therapeutics against targets selected by Bristol-Myers Squibb under the terms of the BMS Amendment.

Pursuant to the BMS Amendment, the financial consideration from Bristol-Myers Squibb is comprised of an upfront payment of $200.0 million and the Company is eligible to receive up to an aggregate of $3,586.0 million as follows:

(i) up to $116.0 million in development milestone payments per target or up to $928.0 million if the maximum of eight targets are selected for the first product modality;

(ii) up to $124.0 million in milestone payments for the first commercial sale in various territories for up to three indications per target program or up to $992.0 million if the maximum of eight targets are selected for the first product modality;

(iii) up to $60.0 million in sales milestone payments per target or up to $480.0 million if maximum of eight targets are selected for the first product modality; and

(iv) up to $56.3 million in development milestone payments or up to $450.0 million if the maximum of eight targets are selected for the second product modality;

(v) up to $62.0 million in milestone payments for the first commercial sale in various territories for up to three indications per target program or up to $496.0 million if the maximum of eight targets are selected for the second product modality;

(vi) up to $30.0 million in sales milestone payments per target or up to $240.0 million if maximum of eight targets are selected for the second product modality.

The Company is also entitled to tiered mid-single to low double-digit percentage royalties from potential future sales. The BMS Amendment does not change the term of the Bristol-Myers Squibb's royalty obligation under the BMS Agreement. Bristol-Myers Squibb's royalty obligation continues on a licensed-product by licensed-product basis until the later of (i) the expiration of the last claim of the licensed patents covering the licensed products in the country, (ii) the twelfth anniversary of the first commercial sale of a licensed product in a country, or (iii) the expiration of any applicable regulatory, pediatric, orphan drug or data exclusivity with respect to such product.

The initial transaction price is $272.8 million consisting of the upfront fees of $250.0 million, research and development service fees of $10.8 million and milestone payments received to date of $12.0 million. The Company determined that the remaining potential milestone payments were probable of significant revenue reversal as their achievement was highly dependent on factors outside the Company's control. Therefore, these payments were fully constrained and were not included in the transaction price as of December 31, 2019. The BMS Agreement represents an obligation to continuously make the Probody therapeutic technology platform available to BMS. Therefore, the initial transaction price is recognized over the estimated research service period, which ends on April 25, 2025.

During the first quarter of 2019, Bristol-Myers Squibb terminated pre-clinical activities on three of the first four collaboration targets selected under the initial original 2014 BMS Agreement. The first and second targets under the BMS Agreement were combined into a single performance obligation. The Company determined that termination of pre-clinical activities on the second target does not impact the Company's continuing obligation to Bristol-Myers Squibb for the first target, CTLA-4, as it is still being actively developed by Bristol-Myers Squibb. Therefore, the Company concluded that it will continue to amortize the related deferred revenue over the original performance period. The Company has determined that upon the termination of pre-clinical activities on the third and the fourth collaboration targets selected by Bristol-Myers Squibb in January and December of 2016, respectively, under the BMS Agreement, it has no further obligations and is no longer eligible to receive any further proceeds from milestones, royalties or research and development fees for such targets. As a result, the Company accelerated recognition of all of the related deferred revenue of the third and the fourth targets upon the effective date of termination and recognized $17.4 million in the first quarter of 2019. Research work under the BMS Amendment executed in March 2017 continues.

The Company recognized revenue of $47.7 million, $32.8 million and $36.5 million for the years ended December 31, 2019, 2018, and 2017, respectively. As of December 31, 2019 and 2018, deferred revenue related to the BMS Agreement was $158.0 million and $205.6 million, respectively. The amount due from Bristol-Myers Squibb under the BMS Agreement was $13,000 and $97,000 as of December 31, 2019 and 2018, respectively.

ImmunoGen, Inc.

In January 2014, the Company and ImmunoGen, Inc. ("ImmunoGen") entered into the Research Collaboration Agreement (the "ImmunoGen Research Agreement"). The ImmunoGen Research Agreement provided the Company with the right to use ImmunoGen's Antibody Drug Conjugate ("ADC") technology in combination with the Company's Probody therapeutic technology to create a PDC directed at one specified target under a research license, and to subsequently obtain an exclusive, worldwide development and commercialization license to use ImmunoGen's ADC technology to develop and commercialize such PDCs. The Company made no upfront cash payment in connection with the execution of the agreement. Instead, the Company provided ImmunoGen with the rights to CytomX's Probody therapeutic technology to create PDCs directed at two targets under the ImmunoGen Research Agreement and to subsequently obtain exclusive, worldwide development and commercialization licenses to develop and commercialize such PDCs. In February 2016, the Company exercised its option to obtain a development and commercialization license for CX-2009 pursuant to the terms of the ImmunoGen Research Agreement (the "CX-2009 License"). In February 2017, ImmunoGen exercised its first option to obtain a development and commercialization license for one of the two targets. Substitution rights for this first target selection program terminated in February 2017 and ImmunoGen discontinued the program in July 2017. The Company recognized the remaining deferred revenue related to the discontinued program upon the termination of the program. ImmunoGen exercised its second option to obtain a development and commercialization license pursuant to the ImmunoGen Research Agreement (the "ImmunoGen 2017 License") for a target in December 2017. In December 2019, the parties entered into a license agreement pursuant to which the ImmunoGen 2017 License was terminated and ImmunoGen granted a license for all of ImmunoGen's rights under the ImmunoGen 2017 license to the Company. See Note 10. License Agreement, for more information.

Under the terms of the ImmunoGen Research Agreement, both the Company and ImmunoGen performed research activities on behalf of the other party for no monetary consideration through January 2018 and the arrangement was extended to June 2018, as discussed below. Each party is solely responsible for the development, manufacturing and commercialization of any products resulting from the exclusive development and commercialization license obtained by such party under the agreement.

In consideration for the ImmunoGen 2017 License, the Company is entitled to receive up to $30.0 million in development and regulatory milestone payments, up to $50.0 million in sales milestone payments and royalties in the mid-single digits percentage on the commercial sales of any resulting product. For the CX-2009 License, the Company is obligated to pay ImmunoGen up to $60.0 million in development and regulatory milestone payments and up to $100.0 million in sales milestone payments and royalties in the mid to high single digits percentage on the commercial sales of any resulting product. In August 2017, the Company made a milestone payment of $1.0 million to ImmunoGen for the first patient dosing with CX-2009. No milestone payments were payable to the Company under the ImmunoGen 2017 License while it was in effect.

The Company accounted for the ImmunoGen Research Agreement based on the fair value of the assets and services exchanged. The Company identified the following performance obligations at the inception of the ImmunoGen Research Agreement:

(1) the research license,

(2) the research services,

(3) the obligation to participate in the joint research committee,

(4) the exclusive research, development and commercialization license and

(5) the obligation to provide future technology improvements, when available.

The Company determined that the research license, the research services, the participation in the joint steering committee, and the technology improvements are not distinct from the development and commercialization license and therefore those performance obligations were combined into one combined performance obligation. The Company considered factors such as the limited economic benefits to ImmunoGen if the development and commercialization license was not obtained and the lack of sublicensing rights in the research license.

The estimated total fair value of the consideration of $13.2 million was recorded as deferred revenue at the inception of the ImmunoGen Research Agreement. In December 2017, the Company entered into the ImmunoGen 2017 License arrangement and extended the Company’s obligation to provide research services under the ImmunoGen Research Agreement to June 30, 2018. The fair value of the consideration for the combined performance obligation was recognized as revenue over the research period that ended on June 30, 2018. As of December 31, 2019 and 2018, neither company has further research obligations under the ImmunoGen Research Agreement.

The estimated total fair value of assets and services received was also $13.2 million, of which $12.7 million was allocated to the licenses received and was charged to research and development expense, with the remaining amount of $0.5 million allocated to the research services, joint research committee participation and technology improvements, which was expensed over the period of services provided.

The Company recognized no revenue for the year ended December 31, 2019 and revenue of $1.5 million and $12.5 million for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2019 and 2018, there was no deferred revenue relating to the ImmunoGen Research Agreements, respectively. As of both December 31, 2019 and 2018, no amount was due from ImmunoGen under the ImmunoGen Research Agreement.

MD Anderson

In November 2015, the Company entered into a research collaboration agreement with MD Anderson to research Probody-enabled chimeric antigen receptor killer (CAR-NK) cell therapies, known as ProCAR-NK cell therapies. Under this collaboration, MD Anderson used the Company's Probody technology to conduct research of ProCAR-NK cell therapies against certain targets selected by the Company in cancer immunotherapy. Under the research collaboration agreement, the Company had the right to exercise an option, during the option period expiring on November 2, 2019 and upon payment of an option exercise fee, to negotiate and acquire a worldwide, exclusive, sublicensable license from MD Anderson for development and commercialization of products directed against any of the selected targets. The Company decided not to exercise the option and the research collaboration agreement expired on November 2, 2019. The expenses related to this agreement were not material to the financial statements for the years ended December 31, 2019, 2018 and 2017.

Pfizer Inc.

In May 2013, the Company and Pfizer Inc. ("Pfizer") entered into a Research Collaboration, Option and License Agreement (the "Pfizer Agreement") to collaborate on the discovery and preclinical research activities related to Probody therapeutics, and PDCs for research project targets nominated by Pfizer. Pfizer nominated two research targets in 2013 and, pursuant to the Pfizer Agreement, had the option of nominating two additional research targets. In December 2014, Pfizer selected an additional research target and paid the Company $1.5 million. The option to select a fourth target lapsed in May 2016. Pfizer discontinued the epidermal growth factor receptor ("EGFR") program and decided to terminate the remaining two targets in February and March 2018. In March 2018, Pfizer terminated the Pfizer Agreement. As such, the Company had no further performance obligations under this agreement after the first quarter of 2018.

Pursuant to the Pfizer Agreement, the Company received an upfront payment of $6.0 million and research and development service fees based on a prescribed FTE rate per year that is capped. The Company identified the following performance obligations at the inception of the Pfizer Agreement: (1) the research license, (2) the research services and (3) the obligation to participate in the joint research committee. The Company determined that the research license was not distinct from the research services and participation in the joint research committee due to the specialized nature of the research services to be provided by the Company, and accordingly, this deliverable was combined with the research services and participation in the joint research committee as a combined performance obligation. The Company concluded that, at the inception of the agreement, Pfizer's options to obtain an exclusive development and commercialization license for each research project target did not represent a material right and were not performance obligations.

As the combined performance obligation represented an obligation to continuously make the Probody therapeutic technology platform available to Pfizer, the initial transaction price was recognized over the common measure of progress for the entire performance obligation over the estimated research service period of five and a half years.

The Company recognized no revenue for the year ended December 31, 2019, and recognized revenue of $1.4 million and $1.9 million for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2019 and 2018, there was no deferred revenue relating to the Pfizer Agreement. As of December 31, 2019 and 2018, there was no amount due from Pfizer under the Pfizer Agreement, respectively.

Contract Liabilities

The following table presents changes in the Company's total contract liabilities for the year ended December 31, 2019 (in thousands):

	Balance at 12/31/2018	Additions	Deductions	Balance at 12/31/2019
		(in thousands)		
Contract liabilities:				
Deferred revenue	$ 277,980	$ 10,000	$ 57,741	$ 230,239

There was a $10.0 million addition to deferred revenue related to the milestone payment triggered by selection of the second target by AbbVie during the year ended December 31, 2019. Deductions of $57.7 million represent primarily revenue recognized, including the accelerated recognition of deferred revenue of $17.4 million due to termination of certain targets by Bristol-Myers Squibb in the first quarter of 2019 that was included in the contract liability balance at the beginning of the period.

The Company estimates that the $230.2 million of deferred revenue related to the following contracts as of December 31, 2019 to be recognized as revenue as set forth below. However, the timing of revenue recognition could differ from the estimates depending on facts and circumstances impacting the various contracts, including progress of research and development, resources assigned to the contracts by the Company or its collaboration partners or other factors outside of the Company's control.

- The $20.0 million of deferred revenue related to the CD71 Agreement as of December 31, 2019 is expected to be recognized based on actual FTE effort and program progress until approximately March 2022.
- The $2.6 million of deferred revenue related to the first target under Discovery Agreement as of December 31, 2019 is expected to be recognized ratably until approximately April 2021. The $9.0 million of deferred revenue related to the second target under the Discovery Agreement as of December 31, 2019 is expected to be recognized ratably until approximately June 2024.
- The $37.6 million of deferred revenue related to the Amgen EGFR Products as of December 31, 2019 is expected to be recognized based on actual FTE effort and program progress until approximately September 2025.
- The $3.0 million of deferred revenue related to the Amgen Other Products as of December 31, 2019 is expected to be recognized ratably until approximately September 2023.
- The $158.0 million of deferred revenue related to the BMS Agreement as of December 31, 2019 is expected to be recognized ratably until approximately April 2025.

10. License Agreement

UCSB

The Company has an exclusive, worldwide license agreement with UCSB (the "UCSB Agreement"), relating to the use of certain patents and technology relating to its core technology, including its therapeutic antibodies, and to certain patent rights the Company co-owns with UCSB covering Probody antibodies and other pro-proteins.

Pursuant to the UCSB Agreement, the Company is obligated to (i) make royalty payments to UCSB on net sales of its products covered under the agreement, subject to annual minimum amounts, (ii) make milestone payments to UCSB upon the occurrence of certain events, (iii) make a milestone payment to UCSB upon occurrence of an IPO or change of control, and (iv) reimburse UCSB for prosecution and maintenance of the licensed patents. If the Company sublicenses its rights under the UCSB Agreement, it is obligated to pay UCSB a percentage of the total sublicense revenue received, which total amount would be first reduced by the aggregate amount of certain research and development related expenses incurred by the Company and other permitted deductions. As part of the UCSB Agreement, the Company has annual minimum royalty obligations of $150,000 under the terms of certain exclusive licensed patent rights. The royalty obligations are cancellable any time by giving notice to the licensor, with the termination being effective 60 days after giving notice.

In 2013, the Company amended the UCSB Agreement to reduce certain amounts due to UCSB upon receipt by the Company of upfront payments, milestone payments and royalties from sublicensees. In exchange for this amendment, the Company issued to UCSB 157,332 shares of common stock. The UCSB Agreement, as amended, will remain in effect until the expiration or abandonment of the last to expire of the licensed patents.

In April 2019, the Company entered into Amendment No.3 to the UCSB Agreement to adjust and clarify certain sublicense terms ("Amendment No.3"). In connection with the amendment, the Company issued to UCSB 150,000 shares of CytomX common stock with a fair value of $10.68 per share. Under the terms of Amendment No.3, the Company and UCSB agreed to modify the determination of sublicense revenues payable by the Company to UCSB on certain existing collaboration agreements and on collaboration agreements executed subsequent to Amendment No.3. In exchange, the Company agreed to make an upfront payment of $1.0 million as well as additional annual license maintenance fees of $0.8 million through 2031. In the event that the Company terminates the agreement due to material concern of the safety or efficacy of the related technology, 50% of all remaining maintenance fees will become due immediately. Otherwise, all remaining maintenance fees will become due immediately upon early termination of the agreement unless there is a material breach by UCSB. Pursuant to Amendment No.3, the Company recorded in research and development expense a charge of $3.4 million relating to sublicense and maintenance fees representing the 150,000 shares issued with a fair value of $1.6 million, the upfront payment of $1.0 million and the additional annual maintenance fee of $0.8 million during the second quarter of 2019.

In June 2019, the Company incurred an additional $0.8 million of sublicense fees related to the $10.0 million milestone payment for the second target selected by AbbVie under the Discovery Agreement.

During the years ended December 31, 2019, 2018 and 2017, the Company incurred sublicense expenses of $4.3 million, $0.6 million and $13.5 million, respectively, under the provisions of the UCSB Agreement. As of December 31, 2019 and 2018, the Company recorded a liability of $0.2 million and $3.2 million, representing sublicense fee payable to UCSB, respectively.

ImmunoGen

In December 2019, the Company entered into a License Agreement (the "ImmunoGen 2019 License") with ImmunoGen, Inc. to obtain an exclusive license with respect to epithelial cell adhesion molecule ("EPCAM"). Under the ImmunoGen 2019 License, ImmunoGen agreed to transfer its know-how, patents, intellectual property rights, and technology transfer materials and information related to its EpCAM program. The license gives the Company the sole ability to develop, manufacture, use and commercialize any licensed product that incorporates, is comprised of, or otherwise derived from a Probody that targets EpCAM in any human therapeutic field on a worldwide basis. In exchange, the Company agreed to make non-refundable and non-creditable payments including an upfront license payment of $7.5 million and certain clinical development, approval and commercialization milestone payments, if achieved and royalties on product sales.

The upfront license fee of $7.5 million was recorded as research and development expense in December 2019 and included in accrued liabilities as of December 31, 2019. The upfront license fee was paid in January 2020.

11. Commitments and Contingencies

Legal Proceedings

The Company is subject to claims and assessments from time to time in the ordinary course of business but is not aware of any such matters, individually or in the aggregate, that will have a material adverse effect on the Company's financial position, results of operations or cash flows.

Indemnifications

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has never incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

12. Leases

Operating Lease

On December 10, 2015, the Company entered into a lease (the "2016 Lease") with HCP Oyster Point III LLC (the "Landlord") to lease approximately 76,000 rentable square feet of office and laboratory space located in South San Francisco, California for the Company's new corporate headquarters.

The term of the Lease commenced on October 1, 2016. The 2016 Lease has an initial term of ten years from the commencement date, and the Company has an option to extend the initial term for an additional five years at the then fair rental value as determined pursuant to the 2016 Lease.

The Lease provided for annual base rent of approximately $3.1 million in the first year of the lease term. The annual base rent for the second twelve months was approximately $4.3 million, which will increase on an annual basis beginning from the 25th month to approximately $5.5 million for the tenth year of the lease. The Company utilized the full amount of the one-time improvement allowance of $12.6 million, of which $2.3 million is recoverable by the landlord through increased rent which continues through the expiration of the initial lease term.

In addition, the Company obtained a standby letter of credit (the "Letter of Credit") in an amount of approximately $0.9 million, which may be drawn by the Landlord to be applied for certain purposes upon the Company's breach of any provisions under the 2016 Lease. The Company has recorded the $0.9 million Letter of Credit as non-current restricted cash on its balance sheet as at both December 31, 2019 and 2018.

Rent expense is recognized on a straight-line basis over the term of the lease and accordingly the Company records the difference between cash rent payments and the recognition of rent expense against the operating lease ROU asset. Rent expense during the years ended December 31, 2019, 2018 and 2017 was $4.8 million, $4.2 million and $4.2 million, respectively.

Supplemental information related to leases are as follows:

	Year Ended December 31, 2019 (in thousands)
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	$ 4,855

	December 31, 2019 (in thousands)
Supplemental balance sheet information related to leases:	
Operating lease right-of-use assets	$ 25,382
Current operating lease liabilities	2,810
Non-current operating lease liabilities	24,871
Total operating lease liabilities	$ 27,681

	December 31, 2019
Weighted-average remaining lease term (in years)	
Operating lease	6.85
Weighted-average discount rate	
Operating lease	8.25%

	December 31, 2019 (in thousands)
Maturity of operating lease liabilities	
2020	4,990
2021	5,129
2022	5,273
2023	5,420
2024 and beyond	15,689
Total lease payments	36,501
Less imputed interest	(8,820)
Present value of lease liabilities	$ 27,681

13. Common Stock

In October 2015, the Company's board of directors and stockholders approved the amended and restatement of the Company's certificate of incorporation. The Amended and Restated Certificate of Incorporation was effective as of October 14, 2015, which provides for 75,000,000 authorized shares of common stock with par value of $0.00001 per share and 10,000,000 shares of preferred stock with a par value of $0.00001 per share.

Common stockholders are entitled to dividends if and when declared by the Board of Directors subject to the prior rights of the preferred stockholders. As of December 31, 2019 and 2018, no dividends on common stock had been declared by the Board of Directors.

In July 2018, the Company completed an underwritten public offering of 5,867,347 shares of common stock at a price of $24.50 per share, which included 765,306 shares issued pursuant to the underwriters' exercise of their option to purchase additional shares of common stock. The aggregate net proceeds received by the Company from the offering were approximately $134.6 million after deducting underwriting discounts and commissions and offering expenses of $9.2 million.

The Company had reserved shares of common stock for issuance, as follows:

	December 31,	
	2019	2018
Options issued and outstanding	9,936,168	7,803,773
Shares available for future stock option grants	3,145,266	1,884,494
Shares available for future employee stock purchase plan	1,609,137	1,301,254
Total	14,690,571	10,989,521

14. Stock-based Compensation

The 2010 Plan and 2011 Plan

In 2010, the Company adopted its 2010 Stock Incentive Plan (the "2010 Plan") which provided for the granting of stock options to employees, directors and consultants of the Company. Options granted under the 2010 Plan were either incentive stock options ("ISOs") or nonqualified stock options ("NSOs").

In February 2012, the Company adopted its 2011 Stock Incentive Plan (the "2011 Plan"). The 2011 Plan is divided into two separate equity programs, an option and stock appreciation rights grant program and a stock award program. In conjunction with adopting the 2011 Plan, the Company discontinued the 2010 Plan and released the shares reserved and still available under that plan.

In connection with the consummation of the IPO in October 2015, the board of directors adopted the Company's 2015 Equity Incentive Plan (the "2015 Plan" and collectively with the 2010 Plan and 2011 Plan, the "Plans"). In conjunction with adopting the 2015 Plan, the Company discontinued the 2011 Plan with respect to new equity awards.

The 2015 Plan

Options under the 2015 Plan may be granted for periods of up to ten years. All options issued to date have had a 10-year life. Under the terms of the 2015 Plan, options may be granted at an exercise price not less than the estimated fair value of the Company's common stock on the date of grant, as determined by the Company's board of directors. For employees holding more than 10% of the voting rights of all classes of stock, the exercise price of ISOs and NSOs may not be less than 110% of the estimated fair value of the shares on the date of grant, as determined by the board of directors. To date, options granted under the 2015 Plan generally vest over four years and vest at a rate of 25% upon the first anniversary of the issuance date and 1/48th per month thereafter.

The initial number of shares of common stock available for future issuance under the 2015 Plan was 2,444,735. Beginning on January 1, 2016 and continuing until the expiration of the 2015 Plan, the total number of shares of common stock available for issuance under the 2015 Plan will automatically increase annually on January 1 by 4% of the total number of issued and outstanding shares of common stock as of January 1 of the same year. As of December 31, 2019, 1,808,066 shares of common stock were available for future issuance under the 2015 Plan.

The 2019 Plan

In September 2019, the Board of Directors adopted the 2019 Employment Inducement Incentive Plan (the "2019 Plan") which provides for the grant of stock options and other equity awards to any employee who has not previously been an employee or director of the Company or who is commencing employment with the Company following a bona fide period of nonemployment by the Company. Awards granted under the 2019 Plan are intended to constitute "employment inducement awards" under Nasdaq Listing Rule 5635(c)(4). Options granted under the 2019 Plan are nonqualified stock options ("NSOs") which may be exercisable for periods of up to ten years and the options shall be granted at an exercise price of not less than 100% of the fair market value of the Company's common stock on the date of grant.

The initial number of shares of common stock available for future issuance under the 2019 Plan was 1,815,000. As of December 31, 2019, 1,337,200 shares of common stock were available for future issuance under the 2019 Plan.

Activity under the Company's stock option plans is set forth below:

	Options Available for Grant	Number of Options	Options Outstanding		
			Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in thousands)
Balances at December 31, 2016	2,493,188	6,158,746	$ 3.69		
Options authorized	1,459,606	—	—		
Options granted	(2,138,620)	2,138,620	13.57		
Options exercised	—	(764,576)	4.14		
Options forfeited	510,619	(1,029,332)	9.12		
Balances at December 31, 2017	2,324,793	6,503,458	8.16		
Options authorized	1,539,142		—		
Options granted	(2,127,400)	2,127,400	24.65		
Options exercised	—	(673,382)	6.17		
Options forfeited	147,959	(153,703)	14.29		
Balances at December 31, 2018	1,884,494	7,803,773	12.62		
Options authorized	3,618,328		—		
Options granted	(3,269,683)	3,269,683	12.40		
Options exercised	—	(146,930)	4.30		
Options forfeited	912,127	(990,358)	16.75		
Balances at December 31, 2019	3,145,266	9,936,168	$ 12.26	6.5	$ 14,220
Options Exercisable—December 31, 2019		6,023,372	$ 10.50	6.5	$ 13,310
Options vested and expected to vest—December 31, 2019		9,936,168	$ 12.26	5.0	$ 14,220

The aggregate intrinsic values of options outstanding, exercisable, vested and expected to vest were calculated as the difference between the exercise price of the options and the estimated fair value of the underlying common stock as of December 31, 2019, 2018 and 2017, respectively.

The aggregate intrinsic value of stock options exercised in the years ended December 31, 2019, 2018 and 2017 was $0.9 million, $14.6 million and $10.5 million, respectively.

The options granted in the years ended December 31, 2019, 2018 and 2017 had weighted-average per share grant-date fair values of $7.03, $14.21 and $8.21, respectively. At December 31, 2019 and 2018, the unrecognized compensation expense with respect to options granted to employees was $31.1 million and $34.6 million, respectively, and is expected to be recognized over 2.6 years and 2.4 years, respectively.

Early Exercise of Employee Options

Certain stock options granted under the Plans provide option holders the right to elect to exercise unvested options in exchange for restricted common stock. Such unvested restricted shares are subject to a repurchase right held by the Company at the original issuance price in the event the optionee's service to the Company is terminated either voluntarily or involuntarily. The right usually lapses 25% on the first anniversary of the vesting start date and in 36 equal monthly amounts thereafter. These repurchase terms are considered to be a forfeiture provision. The cash or full recourse notes received from employees for exercise of unvested options is treated as a refundable deposit and is classified as a liability on the balance sheets.

Employee Stock Purchase Plan

Concurrent with the completion of the IPO in October 2015, the Company's Employee Stock Purchase Plan ("ESPP") became effective. The ESPP allows eligible employees to purchase shares of the Company's common stock at a discount through payroll deductions of up to 15% of their eligible compensation, subject to any plan limitations. The ESPP generally provides for six-month offering periods, and at the end of each offering period, employees are able to purchase shares at 85% of the lower of the fair market value of the Company's common stock on the first trading day of the offering period or on the last trading day of the offering period. The Company issued 142,949 shares and 63,920 shares of common stock under the ESPP in 2019 and 2018, respectively.

Shares available for future purchase under the ESPP were 1,609,137 shares and 1,301,254 shares at December 31, 2019 and 2018, respectively. The compensation expense related to the ESPP was $0.6 million, $0.5 million and $0.2 million for the years ended December 31, 2019, 2018 and 20167 respectively. As of December 31, 2019 and 2018, there was $0.2 million and $0.3 million, respectively, of unrecognized compensation cost related to the ESPP, which the Company expects to recognize over 5 months.

Stock Based Compensation

Total stock-based compensation recorded related to options granted to employees and non-employees and employee stock purchase plan was as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Research and development	$ 9,226	$ 8,313	$ 5,161
General and administrative	9,874	8,565	6,126
Total stock-based compensation expense	$ 19,100	$ 16,878	$ 11,287

Stock-based compensation expense for employees was $18.9 million, $16.7 million and $11.0 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Stock-based compensation expense for non-employees was $0.2 million, $0.2 million and $0.3 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The Company estimated the fair value of employee stock options and ESPP using the Black-Scholes valuation model based on the date of grant with the following assumptions:

	Options			ESPP		
	Year Ended December 31,			Year Ended December 31,		
	2019	2018	2017	2019	2018	2017
Expected volatility	64.4% - 68.6%	65.6%-69.3%	69.1%-72.4%	60.81%-71.89%	46.4%-70.5%	52.3%-63.8%
Risk-free interest rate	1.4% - 2.5%	2.5%-3.0%	1.7%-2.2%	1.62%-2.35%	2.1%-2.6%	1.1%-1.5%
Dividend yield	— %	— %	— %	— %	— %	— %
Expected term (in years)	4.9 - 5.0	4.7-4.9	4.9-5.3	0.5	0.5	0.5

Expected term. The expected term of stock options represents the period that the stock options are expected to remain outstanding and is based on vesting terms, exercise term and contractual lives of the options. The expected term of the ESPP shares is equal to the six-month look-back period.

Expected volatility. The expected stock price volatility for the Company's stock options was derived from the average historical volatilities of the Company's stock price and the stock price of several comparable publicly traded companies within the biotechnology and pharmaceutical industry. The Company will continue to apply this process until a sufficient amount of historical information on the Company's own stock price becomes available. Volatility for ESPP shares is equal to the Company's historical volatility over a six-month period.

Risk-free interest rate. The risk-free interest rate is based on the U.S. Treasury yield with a maturity equal to the expected term of the stock options in effect at the time of grant.

Dividend yield. The expected dividend is assumed to be zero as the Company has never paid dividends and has no current plans to pay any dividends on its common stock.

15. Income Taxes

The Company derives its income only from the United States. The components of the provision for (benefit from) income taxes are as follows (in thousands):

	Years Ended December 31,		
	2019	2018	2017
Current:			
Federal	$ (390)	$ 14,302	$ —
State	—	1	1
Total current	(390)	14,303	1
Deferred:			
Federal	(37)	—	(514)
State	—	—	—
Total deferred	(37)	—	(514)
Provision for (benefit from) income taxes	$ (427)	$ 14,303	$ (513)

A reconciliation of the Company's effective tax rate to the statutory U.S. federal rate is as follows:

	Years Ended December 31,		
	2019	2018	2017
U.S. federal taxes at statutory rate	21.0%	21.0%	34.0%
State tax, net of federal benefit	1.3%	0.7%	7.6%
Stock compensation	(1.2)%	1.7%	2.3%
Tax attributes subject to 382 limitation	0.0%	0.0%	27.5%
Tax credits	2.5%	6.2%	2.7%
Change in valuation allowance	(22.8)%	(49.5)%	(9.3)%
Change in deferreds due to rate change	0.0%	0.0%	(58.6)%
Return to provision adjustment	(0.3)%	0.0%	0.0%
Other	(0.1)%	(0.5)%	(5.0)%
Total	0.4%	(20.4)%	1.2%

The types of temporary differences that give rise to significant portions of the Company's deferred income tax liabilities are set out below (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Net operating loss carryforwards	$ 38,967	$ 15,468	$ 24,682
Research and development credits	10,940	7,514	5,757
Lease liability	5,813	—	—
Intangible assets	3,320	—	—
Deferred revenue	47,180	56,881	15,631
Accruals and deferred rent	1,296	1,955	1,256
Stock-based compensation	7,837	5,746	3,831
Other	—	39	32
Total gross deferred income tax assets	115,353	87,603	51,189
Less: valuation allowance	(109,174)	(86,466)	(50,791)
Deferred tax assets, net of valuation allowance	6,179	1,137	398
Fixed assets	(591)	(854)	(282)
Right-of-use assets	(5,330)	—	—
Intangible assets	—	(108)	(116)
Prepaid expenses	(243)	(175)	—
Other	(15)	—	—
Deferred tax liabilities	(6,179)	(1,137)	(398)
Net deferred income tax liabilities	$ —	$ —	$ —

The Company has established a valuation allowance against all of its net deferred tax assets. Management considered all available evidence, both positive and negative, including but not limited to our historical operating results, income or loss in recent periods, cumulative losses in recent years, forecasted earnings, future taxable income, and significant risk and uncertainty related to forecasts, and concluded the deferred tax assets are not more likely than not to be realized. The net change in the total valuation allowance for the years ended December 31, 2019, 2018 and 2017 was an increase of $22.7 million, $35.7 million and $4.7 million, respectively.

The Company had net operating loss carryforwards for federal and state income tax purposes of approximately $177.5 million and $24.2 million, respectively, as of December 31, 2019, available to reduce future taxable income. Of the federal net operating loss carryforwards, $65.6 million will begin to expire in 2034, if not utilized and $111.9 million will carryforward indefinitely. The state net operating loss carryforwards will begin to expire in 2032, if not utilized.

The Company also has federal and state research and development tax credits carryforwards of $9.3 million and $7.1 million, respectively, as of December 31, 2019 available to reduce future income taxes. The federal research and development tax credits will begin to expire in 2031 if not utilized. The state research and development tax credits have no expiration date.

Internal Revenue Code section 382 ("IRC Section 382") places a limitation (the "Section 382 Limitation") on the amount of taxable income that can be offset by net operating loss ("NOL") carryforwards after a change in control (generally greater than 50% change in ownership) of a loss corporation. California has similar rules. The Company has performed an IRC Section 382 analysis and determined there was an ownership change in 2017 that resulted in 382 limitations. When an ownership change occurs, IRC Section 382 limits the use of NOLs and credits in subsequent periods based on the annual 382 limitations. The annual 382 limitations may limit the full use of available tax attributes in one year but the identified ownership changes may not result in expiration of tax attributes for use prior to expiration of their respective carryforward periods. Accordingly, none of the tax attributes have been reduced but limited the full use in 2018. The Company has determined that, while an ownership change has occurred, the applicable limits would not impair the value or anticipated use of the Company's federal and state net operating losses. Although realization is not assured, management believes it is more likely than not that any limitation under IRC Section 382 will not impair the realizability of the deferred income tax assets related to federal and state net operating loss carryforwards. The Company reviewed its stock ownership for the year ended December 31, 2019 and concluded no ownership changes occurred which would result in a reduction of its net operating loss or in its research and development credits expiring unused. If additional ownership change occurs, the utilization of net operating loss and credit carryforwards could be significantly reduced.

The Company had approximately $5.2 million and $3.8 million of unrecognized tax benefits as of December 31, 2019 and 2018, respectively, and approximately $0.9 million and $1.0 million, respectively, would affect the Company's effective tax rate if recognized.

A reconciliation of the beginning and ending unrecognized tax benefit amount is as follows (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Balance at the beginning of the year	$ 3,756	$ 4,320	$ 1,182
Additions based on tax positions related to current year	1,403	1,166	521
Adjustment based on tax positions related to prior years	90	(1,730)	2,617
Balance at end of the year	$ 5,249	$ 3,756	$ 4,320

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. To the extent accrued interest and penalties do not ultimately become payable, amounts accrued will be reduced and reflected as a reduction of the provision for income taxes in the period that such determination is made. Interest and penalties have not been accrued for 2019, 2018 and 2017.

The Company files income tax returns in the United States, including California state jurisdiction. The tax years 2010 to 2018 remains open to U.S. federal and state examination to the extent of the utilization of net operating loss and credit carryovers. As of December 31, 2019, the Company is under examination by the State of California.

16. Defined Contribution Plan

The Company sponsors a defined contribution plan under Section 401(k) of the Internal Revenue Code covering substantially all full-time U.S. employees. Employee contributions are voluntary and are determined on an individual basis subject to the maximum allowable under federal tax regulations. During the years ended December 31, 2019, 2018 and 2017, the Company made contributions to the plan of $0.8 million, $0.6 million and $0.3 million, respectively.

17. Supplementary Data – Quarterly Financial Data (Unaudited)

The following table represents certain unaudited financial information for each of the quarters in the twelve-month periods ended December 31, 2019 and 2018:

	Three Months Ended			
(in thousands, except per share data)	**December 31, 2019**	**September 30, 2019**	**June 30, 2019**	**March 31, 2019**
Revenue	$ 8,279	$ 10,712	$ 9,013	$ 29,485
Net income (loss)	$ (35,455)	$ (23,699)	$ (28,960)	$ (14,124)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.78)	$ (0.52)	$ (0.64)	$ (0.31)

	Three Months Ended			
(in thousands, except per share data)	**December 31, 2018**	**September 30, 2018**	**June 30, 2018**	**March 31, 2018**
Revenue	$ 11,471	$ 12,509	$ 21,338	$ 14,184
Net income (loss)	$ (32,233)	$ (23,431)	$ (13,447)	$ (15,493)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.72)	$ (0.53)	$ (0.35)	$ (0.40)

18. Subsequent Events

In February 2020, Bristol-Myers Squibb initiated a randomized Phase 2 cohort expansion in its Phase 1/2a trial of the anti-CTLA-4 Probody BMS-986249 and triggered a $10.0 million milestone payment to the Company pursuant to the terms of the BMS Agreement.

In February 2020, the Company initiated a first dosing of a patient in the CX-2009 Phase 2 clinical trial and triggered a $3.0 million milestone payment to ImmunoGen pursuant to the ImmunoGen Research Agreement.

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

Not Applicable.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures.

The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act of 1934, as amended (the "Exchange Act") refers to controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives.

Our management, with the participation of our Principal Executive Officer and Principal Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2019, the end of the period covered by this Annual Report on Form 10-K. Management's assessment of internal control over financial reporting was conducted using the criteria defined in the *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based upon such evaluation, our Principal Executive Officer and Principal Financial Officer have concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of such date.

Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15(d)-15(f). Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements prepared for external purposes in accordance with generally accepted accounting principles. 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.

Our management, with the participation of our principal executive officer and principal financial officer, conducted an evaluation of the effectiveness of our 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. Based on our evaluation under the framework in *Internal Control – Integrated Framework*, management concluded that our internal control over financial reporting was effective as of December 31, 2019.

The effectiveness of our internal control over financial reporting as of December 31, 2019 has also been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in its report included in this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during our fiscal quarter ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. ***Other Information***

On February 27, 2020, we entered into an Open Market Sale Agreement (the "Sales Agreement") with Jefferies LLC ("Jefferies"), to sell shares of our common stock, par value $0.00001 per share, with aggregate gross sales proceeds of up to $75,000,000, from time to time, through an at the market offering under which Jefferies will act as sales agent (the "Agent").

Subject to the terms and conditions of the Sales Agreement, the Agent has agreed to use its commercially reasonable efforts, consistent with its normal trading and sales practices and applicable law and regulations, to sell all of the shares of our common stock so designated by us as agent in accordance with an instruction from us. The sales, if any, of shares of our common stock under the Sales Agreement, as amended, will be made by any method permitted that is deemed an "at the market offering" as defined in Rule 415(a)(4) under the Securities Act, or, with our prior consent, in negotiated transactions. The Sales Agreement, as amended, provides that the commission payable to the Agent for sales of shares of our common stock with respect to which the Agent acts as sales agent shall be 3.0% of the gross sales price for such shares of our common stock sold pursuant to the Sales Agreement. The Sales Agreement contains customary representations and warranties of the parties and indemnification and contribution provisions under which we and the Agent have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act of 1933, as amended (the "Securities Act"). We and the Agent have the right, by giving written notice as specified in the Sales Agreement to terminate the Sales Agreement.

The offering has been registered under the Securities Act pursuant to our shelf registration statement on Form S-3, as amended (No. 333-228203), as supplemented by the Prospectus Supplement dated February 27, 2020 relating to the sale of shares of our common stock.

The foregoing description of the Sales Agreement is not complete and is qualified in its entirety by reference to the full text of such agreement, a copy of which was filed hereto as Exhibit 1.1 and is incorporated by reference herein.

A copy of the opinion of Latham & Watkins LLP relating to the validity of the securities to be issued pursuant to the Sales Agreement is filed hereto as Exhibit 5.1.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item will be set forth in the Company's proxy statement to be filed with the Securities and Exchange Commission within 120 days after the Company's fiscal year end and is incorporated herein by reference.

We have adopted a code of business conduct and ethics that applies to all employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. The code of business conduct and ethics is available on our website at www.cytomx.com. Amendments to, and waivers from, the code of business conduct and ethics that apply to any director, executive officer or persons performing similar functions will be disclosed at the website address provided above and, to the extent required by applicable regulations, on a Current Report on Form 8-K filed with the SEC.

Item 11. Executive Compensation

The information required by this Item will be set forth in the Company's proxy statement to be filed with the Securities and Exchange Commission within 120 days after the Company's fiscal year end 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 will be set forth in the Company's proxy statement to be filed with the Securities and Exchange Commission within 120 days after the Company's fiscal year end and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required by this Item will be set forth in the Company's proxy statement to be filed with the Securities and Exchange Commission within 120 days after the Company's fiscal year end and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by this Item will be set forth in the Company's proxy statement to be filed with the Securities and Exchange Commission within 120 days after the Company's fiscal year end and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(1) *Financial Statements:*

The financial statements required by Item 15(a) are filed as part of this Annual Report on Form 10-K under Item 8 "Financial Statements and Supplementary Data."

(2) *Financial Statement Schedules*

The financial statement schedules required by Item 15(a) are omitted because they are not applicable, not required or the required information is included in the financial statements or notes thereto as filed in Item 8 of this Annual Report on Form 10-K.

(3) *Exhibits.*

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
1.1	Open Market Sale Agreement, dated as of February 27, 2020, by and between CytomX Therapeutics, Inc. and Jefferies LLC.				X
3.1	Amended and Restated Certificate of Incorporation.	8-K	10/19/2015	3.1	
3.2	Amended and Restated Bylaws.	8-K	10/19/2015	3.2	
4.1	Reference is made to exhibits 3.1 through 3.2.				
4.2	Specimen Common Stock Certificate.	S-1/A	9/28/2015	4.1	
4.3	Registration Rights Agreement dated as of September 29, 2017 by and between CytomX Therapeutics, Inc. and Amgen, Inc.	10-Q	11/7/2017	4.4	
4.4	Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.				x
5.1	Opinion of Latham & Watkins LLP.				x
10.1(a)#	2010 Stock Incentive Plan adopted on September 21, 2010 ("2010 Plan").	S-1	8/28/2015	10.3	
10.1(b)#	Form of Stock Option Agreement under the 2010 Plan.	S-1	8/28/2015	10.4	
10.2(a)#	2011 Stock Incentive Plan, adopted on February 7, 2012, as amended ("2011 Plan").	S-1	8/28/2015	10.1	
10.2(b)#	Form of Restricted Stock Award Agreement and Option Exercise Agreement under the 2011 Plan.	S-1	8/28/2015	10.2	
10.3(a)#	2015 Equity Incentive Plan ("2015 Plan").	S-1/A	10/6/2015	10.5	
10.3(b)#	Form of 2015 Plan Option Agreement under the 2015 Plan.	10-Q	11/23/2015	10.4	
10.3(c)#	Form of 2015 Plan Early Exercise Option Agreement	10-Q	11/23/2015	10.5	
10.4#	2015 CytomX Therapeutics, Inc. Employee Stock Purchase Plan.	S-1/A	9/28/2015	10.6	
10.5#	Employment Offer Letter Agreement between CytomX Therapeutics, Inc. and Sean A. McCarthy, D. Phil, dated as of December 15, 2010.	S-1	8/28/2015	10.7	

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.6#	Form of Indemnification Agreement by and between CytomX Therapeutics, Inc. and each of its directors and each of its executive officers.	S-1	8/28/2015	10.16	
10.7†	Research Collaboration Agreement dated as of January 8, 2014, by and between ImmunoGen, Inc. and CytomX Therapeutics, Inc., as amended by the First Amendment to Research Collaboration Agreement effective as of April 3, 2015.	S-1/A	10/2/2015	10.17	
10.8†	Collaboration and License Agreement dated as of May 23, 2014, by and between CytomX Therapeutics, Inc. and Bristol-Myers Squibb Company.	S-1/A	10/2/2015	10.18	
10.9†	Amendment to Extend Collaboration and License Agreement, dated March 17, 2017, by and between the Company and Bristol-Myers Squibb.	10-Q	5/5/2017	10.1	
10.10†	Co-Development and License Agreement, dated April 21, 2016, by and between CytomX Therapeutics, Inc. and AbbVie Ireland Unlimited Company.	10-Q	8/3/2016	10.1	
10.11	Exclusive License Agreement dated as of August 19, 2010, by and between The Regents of the University of California and CytomX Therapeutics, Inc., as amended by Amendment No. 1 to Exclusive Agreement effective as of May 30, 2013 and Amendment No. 2 to Exclusive Agreement effective as of November 8, 2013.	S-1/A	9/18/2015	10.21	
10.12††	Amendment No.3 to Exclusive License Agreement effective as of April 2, 2019, by and between CytomX Therapeutics, Inc. and The Regents of the University of California.	10-Q	5/9/2019	10.6	
10.13†	Collaboration and License Agreement by and between CytomX Therapeutics, Inc. and Amgen, Inc. dated as of September 29, 2017.	10-Q	11/7/2017	10.1	
10.14	Lease dated as of December 10, 2015, by and between CytomX Therapeutics, Inc. and HCP Oyster Point III LLC.	8-K	12/16/2015	10.1	
10.15†	First Amendment to the CD71 Co-Development and License Agreement by and between CytomX Therapeutics, Inc. and AbbVie Ireland Unlimited Company, dated as of October 5, 2016.	10-Q	11/6/2018	10.1	
10.16†	Second Amendment to the CD71 Co-Development and License Agreement by and between CytomX Therapeutics, Inc. and AbbVie Ireland Unlimited Company, effective as of March 31, 2017.	10-Q	11/6/2018	10.2	
10.17†	Third Amendment to the CD71 Co-Development and License Agreement by and between CytomX Therapeutics, Inc. and AbbVie Ireland Unlimited Company, effective as of January 3, 2018.	10-Q	11/6/2018	10.3	
10.18†	Amended and Restated Discovery Collaboration and License Agreement, dated as of June 28, 2019, by and between CytomX Therapeutics, Inc., and AbbVie Ireland Unlimited Company.	10-Q	8/7/2019	10.1	
10.19†	License Agreement by and between CytomX Therapeutics, Inc. and ImmunoGen Inc., dated as of February 12, 2016.	10-Q	11/6/2018	10.4	
10.20†	Second Amendment to the Research Collaboration Agreement by and between CytomX Therapeutics, Inc. and ImmunoGen Inc., dated as of February 12, 2016.	10-Q	11/6/2018	10.5	
10.21†	Third Amendment to the Research Collaboration Agreement by and between CytomX Therapeutics, Inc. and ImmunoGen Inc., dated as of March 3, 2017.	10-Q	11/6/2018	10.6	

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.22#	Consulting Agreement between CytomX Therapeutics, Inc and Dr. Hoyoung Huh, effective as of December 31, 2018.	10-K	2/27/2019	10.27	
10.23#	Amended and Restated Severance and Change of Control Agreement dated February 27, 2019, by and between CytomX Therapeutics, Inc. and Sean McCarthy. D. Phil.	10-Q	5/9/2019	10.1	
10.24#	Amended and Restated Severance and Change of Control Agreement dated March 25, 2019, by and between CytomX Therapeutics, Inc. and Lloyd Rowland.	10-Q	5/9/2019	10.2	
10.25#	Amended and Restated Severance and Change of Control Agreement dated March 25, 2019, by and between CytomX Therapeutics, Inc. and Michael Kavanaugh, M.D.	10-Q	5/9/2019	10.4	
10.26#	Consulting Agreement effective as of May 15, 2019, by and between CytomX Therapeutics, Inc. and Debanjan Ray.	10-Q	5/9/2019	10.7	
10.27(a)#	2019 Employment Inducement Incentive Plan adopted on September 18, 2019 ("2019 Plan").	10-Q	11/7/2019	10.1	
10.27(b)#	Form of Stock Option Agreement under the 2019 Plan.	10-Q	11/7/2019	10.2	
10.28#	Consulting Agreement effective as of August 19, 2019, by and between CytomX Therapeutics, Inc. and Rachel W. Humphrey, M.D.	10-Q	11/7/2019	10.3	
10.29#	Separation Agreement effective as of September 5, 2019, by and between CytomX Therapeutics, Inc. and Rachel W. Humphrey, M.D.	10-Q	11/7/2019	10.4	
10.30#	Employment Offer Letter Agreement between CytomX Therapeutics, Inc. and Amy C. Peterson, M.D. dated as of September 23, 2019.	10-Q	11/7/2019	10.5	
10.31#	Severance and Change of Control Agreement effective as of October 14, 2019, by and between CytomX Therapeutics, Inc. and Amy C. Peterson, M.D.	10-Q	11/7/2019	10.6	
10.32††	Severance and Change of Control Agreement effective as of February 3, 2020, by and between CytomX Therapeutics, Inc. and Alison Hannah, M.D.				X
23.1	Consent of Independent Registered Public Accounting Firm.				X
23.2	Consent of Latham & Watkins LLP (included in Exhibit 5.1)				X
24.1	Power of Attorney (included on signature page)				X
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				X
101.SCH	Inline XBRL Taxonomy Extension Schema Document				X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document				X
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)				X

† Confidential treatment has been granted for certain information contained in this exhibit. Such information has been omitted and filed separately with the Securities and Exchange Commission.

†† Certain confidential portions of this exhibit have been omitted from this exhibit.

# Indicates management contract or compensatory plan.

** The certifications attached as Exhibit 32.1 that accompany this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of CytomX Therapeutics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.

Item 16. Form 10-K Summary

Registrants may voluntarily include a summary of information required by Form 10-K under Item 16. We have elected not to include such summary.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

CYTOMX THERAPEUTICS, INC.

Date: February 27, 2020

By: /s/ Sean A. McCarthy
Name: Sean A. McCarthy, D.Phil.
Title: President and Chief Executive Officer
(Principal Executive Officer and Principal Financial Officer)

By: /s/ Robin Knifsend
Name: Robin Knifsend
Title: Vice President of Finance
(Principal Accounting Officer)

POWER OF ATTORNEY

Each person whose individual signature appears below hereby authorizes and appoints Sean A. McCarthy, D. Phil. and Lloyd Rowland and each of them, with full power of substitution and resubstitution, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this Annual Report on Form 10-K and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agents full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorney-in-fact and agents or his substitute or substitutes may lawfully do or cause to be done by virtue thereof. 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.

/s/ Sean A. McCarthy Sean A. McCarthy, D.Phil.	President, Chief Executive Officer and Director *(Principal Executive Officer and Principal Financial Officer)*	February 27, 2020
/s/ Matthew P. Young Matthew P. Young	Director	February 27, 2020
/s/ Charles S. Fuchs Charles S. Fuchs, M.D., M.P.H.	Director	February 27, 2020
/s/ Frederick W. Gluck Frederick W. Gluck	Director	February 27, 2020
/s/ John A. Scarlett John A. Scarlett, M.D.	Director	February 27, 2020
/s/ Elaine V. Jones Elaine V. Jones, Ph.D.	Director	February 27, 2020
/s/ James R. Meyers James Meyers	Director	February 27, 2020

Exhibit 1.1

OPEN MARKET SALE AGREEMENT[SM]

February 27, 2020

JEFFERIES LLC
520 Madison Avenue
New York, New York 10022

Ladies and Gentlemen:

CytomX Therapeutics, Inc., a Delaware corporation (the "**Company**"), proposes, subject to the terms and conditions stated herein, to issue and sell from time to time through Jefferies LLC, as sales agent and/or principal (the "**Agent**"), shares of the Company's common stock, par value $0.00001 per share (the "**Common Shares**"), having an aggregate offering price of up to $75,000,000 on the terms set forth in this agreement (this "**Agreement**").

Section 1. DEFINITIONS

(a) Certain Definitions. For purposes of this Agreement, capitalized terms used herein and not otherwise defined shall have the following respective meanings:

"**affiliate**" of a Person means another Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such first- mentioned Person. The term "control" (including the terms "controlling," "controlled by" and "under common control with") means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

"**Agency Period**" means the period commencing on the date of this Agreement and expiring on the earliest to occur of (x) the date on which the Agent shall have placed the Maximum Program Amount pursuant to this Agreement and (y) the date this Agreement is terminated pursuant to Section 7.

"**Commission**" means the U.S. Securities and Exchange Commission.

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission thereunder.

"**Floor Price**" means the minimum price set by the Company in the Issuance Notice below which the Agent shall not sell Shares during the applicable period set forth in the Issuance Notice, which may be adjusted by the Company at any time during the period set forth in the Issuance Notice by delivering written notice of such change to the Agent and which in no event shall be less

[SM] "Open Market Sale Agreement" is a service mark of Jefferies LLC

than $1.00 without the prior written consent of the Agent, which may be withheld in the Agent's sole discretion.

"**Issuance Amount**" means the aggregate Sales Price of the Shares to be sold by the Agent pursuant to any Issuance Notice.

"**Issuance Notice**" means a written notice delivered to the Agent by the Company in accordance with this Agreement in the form attached hereto as Exhibit A that is executed by its Chief Executive Officer, President or Chief Financial Officer.

"**Issuance Notice Date**" means any Trading Day during the Agency Period that an Issuance Notice is delivered pursuant to Section 3(b)(i).

"**Issuance Price**" means the Sales Price less the Selling Commission.

"**Maximum Program Amount**" means Common Shares with an aggregate Sales Price of the lesser of (a) the number or dollar amount of Common Shares registered under the effective Registration Statement (defined below) pursuant to which the offering is being made, (b) the number of authorized but unissued Common Shares (less Common Shares issuable upon exercise, conversion or exchange of any outstanding securities of the Company or otherwise reserved from the Company's authorized capital stock), (c) the number or dollar amount of Common Shares permitted to be sold under Form S-3 (including General Instruction I.B.6 thereof, if applicable), or (d) $75,000,000.

"**Person**" means an individual or a corporation, partnership, limited liability company, trust, incorporated or unincorporated association, joint venture, joint stock company, governmental authority or other entity of any kind.

"**Principal Market**" means the Nasdaq Global Select Market or such other national securities exchange on which the Common Shares, including any Shares, are then listed.

"**Sales Price**" means the actual sale execution price of each Share placed by the Agent pursuant to this Agreement.

"**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder.

"**Selling Commission**" means three percent (3.0%) of the gross proceeds of Shares sold pursuant to this Agreement, or as otherwise agreed between the Company and the Agent with respect to any Shares sold pursuant to this Agreement.

"**Settlement Date**" means the second business day following each Trading Day during the period set forth in the Issuance Notice on which Shares are sold pursuant to this Agreement, when the Company shall deliver to the Agent the amount of Shares sold on such Trading Day and the Agent shall deliver to the Company the Issuance Price received on such sales.

"**Shares**" shall mean the Company's Common Shares issued or issuable pursuant to this Agreement.

"**Trading Day**" means any day on which the Principal Market is open for trading.

Section 2. REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company represents and warrants to, and agrees with, the Agent that as of (1) the date of this Agreement, (2) each Issuance Notice Date, (3) each Settlement Date, (4) each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) and (5) as of each Time of Sale (each of the times referenced above is referred to herein as a "**Representation Date**"), except as may be disclosed in the Prospectus (including any documents incorporated by reference therein and any supplements thereto) on or before a Representation Date:

(a) Registration Statement. The Company has prepared and filed with the Commission a shelf registration statement on Form S-3 (File No. 333-228203) that contains a base prospectus (the "**Base Prospectus**"). Such registration statement registers the issuance and sale by the Company of the Shares under the Securities Act. Except where the context otherwise requires, such registration statement, including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, including all financial statements, exhibits and schedules thereto and all documents incorporated or deemed to be incorporated therein by reference pursuant to Item 12 of Form S-3 under the Securities Act as from time to time amended or supplemented, is herein referred to as the "**Registration Statement**," and the Base Prospectus constituting a part of such registration statement(s), together with any prospectus supplement filed with the Commission pursuant to Rule 424(b) under the Securities Act relating to a particular issuance of the Shares, including all documents incorporated or deemed to be incorporated therein by reference pursuant to Item 12 of Form S-3 under the Securities Act, in each case, as from time to time amended or supplemented, is referred to herein as the "**Prospectus**," except that if any revised prospectus is provided to the Agent by the Company for use in connection with the offering of the Shares that is not required to be filed by the Company pursuant to Rule 424(b) under the Securities Act, the term "**Prospectus**" shall refer to such revised prospectus from and after the time it is first provided to the Agent for such use. The Registration Statement at the time it originally became effective is herein called the "**Original Registration Statement**." As used in this Agreement, the terms "amendment" or "supplement" when applied to the Registration Statement or the Prospectus shall be deemed to include the filing by the Company with the Commission of any document under the Exchange Act after the date hereof that is or is deemed to be incorporated therein by reference.

All references in this Agreement to financial statements and schedules and other information which is "contained," "included" or "stated" in the Registration Statement or the Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in or otherwise deemed under the Securities Act to be a part of or included in the Registration Statement or the Prospectus, as the case may be, as of any specified date; and all references in this Agreement to amendments or supplements to the Registration Statement or the Prospectus shall be deemed to mean and include, without limitation, the filing of any document under the Exchange Act which is or is deemed to be incorporated by reference in or otherwise deemed under the Securities Act to be a part of or included in the Registration Statement or the Prospectus, as the case may be, as of any specified date.

At the time the Registration Statement was originally declared effective and at the time the Company's most recent annual report on Form 10-K was filed with the Commission, the Company met the then-applicable requirements for use of Form S-3 under the Securities Act. During the Agency Period, each time the Company files an annual report on Form 10-K the Company will meet the then-applicable requirements for use of Form S-3 under the Securities Act.

(b) Compliance with Registration Requirements. The Original Registration Statement has been declared effective by the Commission under the Securities Act and any Rule 462(b) Registration Statement will be declared effective by the Commission under the Securities Act. The Company has complied to the Commission's satisfaction with all requests of the Commission for additional or supplemental information. No stop order suspending the effectiveness of the Registration Statement or any Rule 462(b) Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the knowledge of the Company, are contemplated or threatened by the Commission.

The Prospectus when filed complied in all material respects with the Securities Act and, if filed with the Commission through its Electronic Data Gathering, Analysis and Retrieval system ("**EDGAR**") (except as may be permitted by Regulation S-T under the Securities Act), was identical to the copy thereof delivered to the Agent for use in connection with the issuance and sale of the Shares. Each of the Registration Statement, any Rule 462(b) Registration Statement and any post-effective amendment thereto, at the time it became effective and at all subsequent times, complied and will comply in all material respects with the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the date of this Agreement, the Prospectus and any Free Writing Prospectus (as defined below) considered together (collectively, the "**Time of Sale Information**") did not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus, as amended or supplemented, as of its date, did not, and, at each Settlement Date, will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to statements in or omissions from the Registration Statement, any Rule 462(b) Registration Statement, or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with information relating to the Agent furnished to the Company in writing by the Agent expressly for use therein, it being understood and agreed that the only such information furnished by the Agent to the Company consists of the information described in Section 6 below. There are no contracts or other documents required to be described in the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required. The Registration Statement and the offer and sale of the Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said rule.

(c) Ineligible Issuer Status. The Company is not an "ineligible issuer" in connection with the offering of the Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Any Free Writing Prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements

of the Securities Act. Each Free Writing Prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act including timely filing with the Commission or retention where required and legending, and each such Free Writing Prospectus, as of its issue date and at each Settlement Date does not and will not include any information that conflicted, conflicts with or will conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein. Except for the Free Writing Prospectuses, if any, and electronic road shows, if any, furnished to you before first use, the Company has not prepared, used or referred to, and will not, without your prior consent, prepare, use or refer to, any Free Writing Prospectus.

(d) Incorporated Documents. The documents incorporated or deemed to be incorporated by reference in the Registration Statement and the Prospectus, at the time they were filed with the Commission, complied in all material respects with the requirements of the Exchange Act, as applicable, and, when read together with the other information in the Prospectus, do not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. The representation and warranty set forth in the immediately preceding sentence does not apply to statements in or omissions from the Registration Statement, any Rule 462(b) Registration Statement, or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with the Agent Information (as defined below) furnished to the Company in writing by the Agent expressly for use therein.

(e) Exchange Act Compliance. The documents incorporated or deemed to be incorporated by reference in the Prospectus, at the time they were or hereafter are filed with the Commission, and any Free Writing Prospectus or amendment or supplement thereto complied and will comply in all material respects with the requirements of the Exchange Act.

(f) Material Adverse Effect. Since the date of the latest audited financial statements included or incorporated by reference in the Prospectus, the Company has not (i) sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree or (ii) entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company or incurred any liability or obligation, direct or contingent, that is material to the Company, in each case otherwise than as set forth or contemplated in the Prospectus; and, since the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been (x) any change in the capital stock (other than as a result of (i) the exercise, if any, of stock options or the award, if any, of stock options or restricted stock in the ordinary course of business pursuant to the Company's equity plans that are described in the Prospectus or (ii) the issuance, if any, of stock upon conversion of Company securities as described in the Prospectus) or long term debt of the Company or (y) any Material Adverse Effect (as defined below); as used in this Agreement, "**Material Adverse Effect**" shall mean any material adverse change or effect in (i) the condition (financial or otherwise), earnings, business prospects or business operations, financial position, stockholders' equity of the Company or (ii) the ability of the Company to perform its obligations under this

Agreement, including the issuance and sale of the Shares, or to consummate the transactions contemplated hereby.

(g) Real Property. The Company has good and marketable title to all real property owned by them and good title to all other properties owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (i) are described in the Registration Statement and the Prospectus or (ii) would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; and all of the leases and subleases material to the business of the Company, considered as one enterprise, and under which the Company holds properties described in the Registration Statement or the Prospectus, are in full force and effect, and the Company has no notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease.

(h) Incorporation and Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware and has full corporate power and authority to own or lease, as the case may be, and to operate its properties and conduct its business as described in the Registration Statement and the Prospectus, and is duly qualified to do business as a foreign corporation and is in good standing under the laws of each jurisdiction which requires such qualification, except where the failure so to qualify or to be in good standing would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(i) XBRL. The interactive data in the eXtensible Business Reporting Language ("**XBRL**") included as an exhibit to the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the SEC's rules and guidelines applicable thereto.

(j) Capitalization. The Company's authorized equity capitalization is as set forth in the Registration Statement and the Prospectus; the capital stock of the Company conforms to the description thereof contained in the Registration Statement and the Prospectus; the outstanding Common Shares have been duly and validly authorized and issued and are fully paid and non-assessable; the Shares have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be validly issued, fully paid and nonassessable, the certificates for the Shares are in valid and sufficient form; the holders of outstanding shares of capital stock of the Company are not entitled to preemptive or other rights to subscribe for the Shares; and, except as set forth in the Registration Statement and the Prospectus, no options, warrants or other rights to purchase, agreements or other obligations to issue, or rights to convert any obligations into or exchange any securities for, shares of capital stock of or ownership interests in the Company are outstanding.

(k) No Subsidiaries. The Company has no subsidiaries.

(l) Exhibits. There is no franchise, contract or other document of a character required to be described in the Registration Statement or the Prospectus, or to be filed as an exhibit thereto, which is not described or filed as required.

(m) This Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(n) Company Not an "Investment Company." The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Prospectus, will not be an "investment company" as defined in the Investment Company Act of 1940, as amended.

(o) No Consents. No consent, approval, authorization, filing with or order of any court or governmental agency or body is required in connection with the transactions contemplated herein, except (i) such as have been obtained under the Securities Act, the rules of the Nasdaq Global Market and the rules of the Financial Industry Regulatory Authority, Inc. ("**FINRA**") and (ii) such as may be required under the blue sky laws of any jurisdiction in connection with the purchase and distribution of the Shares in the manner contemplated herein and in the Prospectus.

(p) Non-Contravention. Neither the issue and sale of the Shares nor the consummation of any other of the transactions herein contemplated nor the fulfillment of the terms hereof will conflict with, result in a breach or violation of, or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to, (i) the charter or by-laws of the Company, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which the Company is a party or bound or to which its or their property is subject, or (iii) any statute, law, rule, regulation, judgment, order or decree applicable to the Company of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any of its properties, except in the case of clauses (ii) and (iii) above, for any conflict, breach or violation of, or imposition that would not, individually or in the aggregate, have a Material Adverse Effect.

(q) No Registration Rights. No holders of securities of the Company have registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the Securities Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement and the Prospectus.

(r) Financial Statements. The balance sheets and related statements of operations and comprehensive loss, stockholders' equity and of cash flows included in the Registration Statement and the Prospectus, together with the related schedules and notes, present fairly, in all material respects, the financial position of the Company at the dates indicated and the results of operations and cash flows of the Company and for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("**GAAP**") applied on a consistent basis throughout the periods involved, except, in the case of unaudited financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes as permitted by applicable rules of the Commission. The supporting schedules, if any, present fairly in accordance with GAAP in all material respects the information required to be stated therein. The selected financial data and the summary financial information included in the Registration Statement and the Prospectus present fairly the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included therein.

(s) No Litigation. Except as disclosed in the Registration Statement and the Prospectus, there is no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator (including, without limitation, any action, suit, proceeding, inquiry or investigation before or brought by the U.S. Food and Drug Administration (the "**FDA**")) involving the Company or its property pending or, to the knowledge of the Company, threatened that would, individually or in the aggregate, have a Material Adverse Effect.

(t) No Defaults. The Company is not in violation or default of (i) any provision of its charter or bylaws, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which it is a party or bound or to which its property is subject, except for such defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect, or (iii) any statute, law, rule, regulation, judgment, order or decree of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any of its properties, as applicable, except in the cases of clauses (ii) or (iii) for such defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(u) Independent Auditor. Ernst & Young LLP, who have certified certain financial statements of the Company and delivered their reports with respect to the audited consolidated financial statements and schedules included in the Prospectus, are an independent registered public accounting firm with respect to the Company within the meaning of the Securities Act and the applicable published rules and regulations thereunder and the Public Company Accounting Oversight Board.

(v) Tax Law Compliance. The Company has filed all tax returns that are required to be filed or has requested extensions thereof (except in any case in which the failure so to file would not have a Material Adverse Effect, except as set forth in or contemplated in the Prospectus (exclusive of any amendment or supplement thereto)) and has paid all taxes required to be paid by it and any other assessment, fine or penalty levied against it, to the extent that any of the foregoing is due and payable, except for any such assessment, fine or penalty that is currently being contested in good faith or as would not have a Material Adverse Effect, except as set forth in or contemplated in the Prospectus (exclusive of any amendment or supplement thereto).

(w) No Labor Disputes. No labor problem or dispute with the employees of the Company exists or, to the knowledge of the Company, is threatened or imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its principal suppliers, contractors or customers, which, in either case, would reasonably be expected to result in a Material Adverse Effect.

(x) Insurance. The Company carries or is entitled to the benefits of insurance in such amounts and covering such risks the Company reasonably believes is adequate for the conduct of its business, and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as an when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not reasonably be

expected to result in a Material Adverse Effect. The Company has not been denied any insurance coverage for which it has sought or for which it has applied.

(y) All Necessary Permits, etc. The Company possesses such permits, licenses, approvals, consents and other authorizations (collectively, "**Governmental Licenses**") issued by the appropriate governmental bodies necessary to conduct the business now operated by them, except where the failure so to possess would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company is in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, individually or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to result in a Material Adverse Effect. Except as set forth in the Registration Statement and the Prospectus, the Company (i) is, and at all times has been, in material compliance with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import export or disposal of any product manufactured or distributed by the Company ("**Applicable Laws**"); and (ii) has not received any FDA Form 483, written notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from any court or arbitrator or governmental or regulatory authority alleging or asserting material non-compliance with (x) any Applicable Laws or (y) any licenses, exemptions, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Law.

(z) Intellectual Property Rights. (i) Except as set forth in the Registration Statement and the Prospectus, the Company owns, or has obtained valid and enforceable licenses for, or other rights to use on reasonable terms, the inventions, patent applications, patents, trademarks (both registered and unregistered), service marks, trade names, copyrights, know-how (including trade secrets, and other unpatented and/or unpatentable proprietary information or confidential information, systems or procedures), software, domain names and other intellectual property rights, including registrations and applications for registration thereof, and all goodwill associated with any of the foregoing (collectively, the "**Intellectual Property**") described in the Registration Statement and the Prospectus as being owned or licensed by the Company; (ii) the Company owns, or possesses sufficient rights to use all Intellectual Property used in, or necessary for or material to the conduct of, its business as currently conducted or as proposed to be conducted and as described in the Registration Statement and the Prospectus; (iii) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others (A) alleging that the Company has infringed, misappropriated or otherwise violated, or would, upon the commercialization of any product or service described in the Registration Statement or the Prospectus, infringe or misappropriate or otherwise violate, any Intellectual Property rights of others, (B) challenging the Company's rights in or to, or alleging the violation of any of the terms of, any of its Intellectual Property, or (C) challenging the validity, scope or enforceability of any Intellectual Property owned by or exclusively licensed to the Company, and with respect to the foregoing clauses (A) through (C), the Company is unaware of any facts which, in the Company's view, could form a reasonable basis for any such claim; (iv) none of the technology employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or, to the Company's knowledge, upon any of its officers,

directors or employees; (v) all Intellectual Property owned by or licensed to the Company (A) is, to the knowledge of the Company, valid and enforceable, (B) is solely owned by or, licensed to the Company, and (C) is owned free and clear of all liens, encumbrances, defects and other restrictions; (vi) to the knowledge of the Company, no third party has infringed, misappropriated or otherwise violated any Intellectual Property owned by or exclusively licensed to the Company; and (vii) the Company has not infringed, misappropriated or otherwise violated any Intellectual Property of any person and the conduct of its business as presently conducted or as proposed to be conducted in the Registration Statement and the Prospectus does not and will not infringe, misappropriate or otherwise violate any Intellectual Property of any person. To the Company's knowledge, there are no third parties who have or will be able to establish rights to any Intellectual Property described in the Registration Statement and the Prospectus as exclusively owned or exclusively licensed by the Company, except for licenses granted in writing by the Company to any third-parties ("**Exclusive Intellectual Property**"); there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others challenging the Company's ownership or rights in or to any Exclusive Intellectual Property, and the Company is unaware of any facts which, in the Company's view, could form a reasonable basis for any such claim. The Company has at all times taken reasonable steps in accordance with normal industry practice to maintain the confidentiality of all Intellectual Property the value of which to the Company is contingent upon maintaining the confidentiality thereof. All founders, current and former employees, contractors, consultants and other parties involved in the development of Intellectual Property for the Company have signed confidentiality and invention assignment agreements with the Company, pursuant to which the Company either (y) has obtained ownership of and is the exclusive owner of such material Intellectual Property, or (z) has obtained a valid right to exploit such material Intellectual Property, sufficient for the conduct of its business as currently conducted and as proposed in the Registration Statement and the Prospectus to be conducted.

(aa) Patents. All patents and patent applications owned by or licensed to the Company or under which the Company has rights have, to the knowledge of the Company, been duly and properly filed and maintained; to the knowledge of the Company, the parties prosecuting such applications have complied with their duty of candor and disclosure to the USPTO in connection with such applications; and the Company is not aware of any facts required to be disclosed to the USPTO that were not disclosed to the USPTO and which would preclude the grant of a patent in connection with any such application expected to form the basis of a finding of invalidity or unenforceability with respect to any patents that have issued with respect to such applications.

(bb) Cybersecurity; Data Privacy. (i) Except as disclosed in the Registration Statement and the Prospectus, to the Company's knowledge, there has been no security breach, attack or other compromise of or relating to any of the Company's information technology and computer systems, networks, hardware, software or data maintained by or on behalf of the Company (including the data of its customers, employees, suppliers, vendors and any other third party data maintained by or on behalf of the Company) (collectively, the "**IT Systems and Data**") that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; (ii) the Company has been in compliance with all applicable laws or statutes and all applicable judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to (x) the privacy and security of the IT Systems and Data, (y) the protection of the IT Systems and Data from unauthorized use, access, misappropriation or modification and (z) the collection, use, transfer, processing, storage,

disposal and disclosure by the Company of personally identifiable information and/or any other information collected from or provided by third parties, except as would not, in the case of this clause (ii), individually or in the aggregate, have a Material Adverse Effect; (iii) the Company has implemented commercially reasonable backup and disaster recovery and security plans, procedures and facilities for its business consistent with industry standards and practices; and (iv) the Company has taken commercially reasonable steps for its business consistent with industry standards and practices to protect the IT Systems and Data.

(cc) Internal Controls. The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that (i) complies with the requirements of the Exchange Act applicable to the Company, (ii) has been designed by the Company's principal executive officer and principal financial officer, or under their 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 and (iii) is sufficient to provide reasonable assurance that (A) transactions are executed in accordance with management's general or specific authorization, (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets, (C) access to assets is permitted only in accordance with management's general or specific authorization and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and the Company is not aware of any material weaknesses in its internal control over financial reporting (it being understood that this subsection shall not require the Company to comply with Section 404 of the Sarbanes Oxley Act of 2002 as of an earlier date than it would otherwise be required to so comply under applicable law). Since the date of the latest audited financial statements included or incorporated by reference in the Prospectus, there has been no change in the Company's internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company's internal control over financial reporting.

(dd) Disclosure Controls. The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act as applicable to the Company; such disclosure controls and procedures have been designed to ensure that material information relating to the Company is made known to the Company's principal executive officer and principal financial officer by others within the Company; and such disclosure controls and procedures are effective.

(ee) No Price Stabilization or Manipulation. The Company has not taken, directly or indirectly, any action designed to or that would constitute or that might reasonably be expected to cause or result in, under the Exchange Act or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(ff) Environmental Laws. Except as set forth in the Registration Statement and the Prospectus or would not, individually or in the aggregate, result in a Material Adverse Effect, (i) the Company is not in violation of any applicable federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation,

ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of hazardous chemicals, pollutants, contaminants, hazardous wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or toxic mold (collectively, "**Hazardous Materials**") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "**Environmental Laws**"), (ii) the Company has all permits, authorizations and approvals required under any applicable Environmental Laws for the operation of its business and the occupancy of its real property and is in compliance with their requirements, (iii) there are no pending or, to the Company's knowledge, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings relating to any Environmental Law against the Company and (iv) to the Company's knowledge, there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental entity, against or affecting the Company relating to Hazardous Materials or any Environmental Laws.

(gg) ERISA. None of the following events has occurred or exists: (i) a failure to fulfill the obligations, if any, under the minimum funding standards of Section 302 of the United States Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"), and the regulations and published interpretations thereunder with respect to a Plan that is required to be funded, determined without regard to any waiver of such obligations or extension of any amortization period; (ii) an audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other federal or state governmental agency or any foreign regulatory agency with respect to the employment or compensation of employees by any of the Company that would reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect; or (iii) any breach of any contractual obligation, or any violation of law or applicable qualification standards, with respect to the employment or compensation of employees by the Company that would reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. None of the following events has occurred or is reasonably likely to occur: (1) a material increase in the aggregate amount of contributions required to be made to all Plans in the current fiscal year of the Company compared to the amount of such contributions made in the most recently completed fiscal year of the Company; (2) a material increase in the "accumulated post-retirement benefit obligations" (within the meaning of Statement of Financial Accounting Standards 106) of the Company compared to the amount of such obligations in the most recently completed fiscal year of the Company; (3) any event or condition giving rise to a liability under Title IV of ERISA that would be reasonably expected, individually or in the aggregate, to have a Material Adverse Effect; or (4) the filing of a claim by one or more employees or former employees of the Company related to their employment that would or would be reasonably expected, individually or in the aggregate, to have a Material Adverse Effect. For purposes of this paragraph, the term "Plan" means a plan (within the meaning of Section 3(3) of ERISA) subject to Title IV of ERISA with respect to which the Company may have any liability.

(hh) Sarbanes-Oxley Act. There is and has been no failure on the part of the Company and any of the Company's directors or officers, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations

promulgated in connection thereunder (the "**Sarbanes-Oxley Act**"), including Section 402 relating to loans and Sections 302 and 906 relating to certifications.

(ii) Anti-Corruption and Anti-Bribery Laws. Neither the Company nor, to the knowledge of the Company, any director, officer, or employee of the Company or any agent, affiliate or other person acting on behalf of the Company has, in the course of its actions for, or on behalf of, the Company (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made or taken any act in furtherance of an offer, promise, or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government official or employee, including of any government-owned or controlled entity or public international organization, or any political party, party official, or candidate for political office; (iii) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "**FCPA**"), the UK Bribery Act 2010, or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, authorized, requested, or taken an act in furtherance of any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment or benefit. The Company has instituted and maintains policies and procedures reasonably designed to ensure compliance with the FCPA. No part of the proceeds of the offering will be used, directly or indirectly, in violation of the FCPA or the U.K. Bribery Act 2010, each as may be amended, or similar law of any other relevant jurisdiction, or the rules or regulations thereunder.

(jj) Money Laundering Laws. The operations of the Company are, and have been conducted at all times, in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar applicable rules, regulations or guidelines, issued, administered or enforced by any governmental agency within the jurisdictions in which the Company conducts business (collectively, the "**Money Laundering Laws**") and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(kk) Sanctions. None of the Company nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company is currently the subject or the target of any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury ("**OFAC**") or the U.S. Department of State, the United Nations Security Council, the European Union, Her Majesty's Treasury of the United Kingdom, or other relevant sanctions authority (collectively, "**Sanctions**"); nor is the Company located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, Crimea, Cuba, Iran, North Korea, and Syria (each, a "**Sanctioned Country**"); and the Company will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, or any joint venture partner or other person or entity, for the purpose of financing the activities of or business with any person, or in any country or territory, that at the time of such financing, is the subject or the target of Sanctions or in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of applicable Sanctions. For the past five years, the Company has not knowingly engaged in and are not now knowingly

engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(ll) Statistical and Market Data. Any statistical and market-related data included in the Registration Statement or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate in all material respects and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(mm) Clinical Trials. The clinical trials and preclinical studies conducted by or, to the knowledge of the Company after due inquiry, on behalf of or sponsored by the Company, or in which the Company has participated, that are described in the Registration Statement and the Prospectus, or the results of which are referred to in the Registration Statement and the Prospectus, as applicable, were, and if still pending are, being conducted in all material respects in accordance with standard industry practice and any applicable rules and regulations of the FDA and comparable drug regulatory agencies outside of the United States to which they are subject (collectively, the "**Regulatory Authorities**") and current Good Clinical Practices and Good Laboratory Practices; the descriptions of the results of such trials and studies contained in the Registration Statement or the Prospectus are accurate and complete in all material respects and fairly present the data derived from such trials and studies; the Company has no knowledge of any other trials not described in the Registration Statement and the Prospectus, the results of which reasonably call into question the results described or referred to in the Registration Statement and the Prospectus; the Company has operated at all times and is currently in compliance in all material respects with all Applicable Laws of the Regulatory Authorities; and the Company has not received any written notices, correspondence or other communications from the Regulatory Authorities or any other governmental agency with jurisdiction over it requiring or threatening the termination, material modification or suspension of any clinical trials or preclinical studies that are described in the Registration Statement and the Prospectus or the results of which are referred to in the Registration Statement and the Prospectus, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials, and, to the Company's knowledge, there are no reasonable grounds for the same.

(nn) Regulatory Authority Filings. The Company has not failed to file with the Regulatory Authorities any required filing, declaration, listing, registration, report or submission (other than any such immaterial filing, declaration, listing, registration, report or submission) with respect to the Company's product candidates that are described or referred to in the Registration Statement and the Prospectus; and all such filings, declarations, listings, registrations, reports or submissions were in material compliance with applicable laws when filed; and no material deficiencies regarding compliance with applicable law have been asserted by any applicable regulatory authority with respect to any such filings, declarations, listings, registrations, reports or submissions.

(oo) No Debt Securities. The Company does not have any debt securities or preferred stock that are rated by any "nationally recognized statistical rating agency" (as defined in Section 3(a)(62) of the Exchange Act).

(pp) Other Underwriting Agreements. Other than as disclosed to the Agent, as of the date of this Agreement, the Company is not a party to any agreement with an agent or underwriter for any other "at the market" or continuous equity transaction.

(qq) Brokers. Except as otherwise disclosed in the Prospectus, there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder's fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(rr) FINRA Matters. The Company meets the requirements for use of Form S-3 under the Securities Act specified in FINRA Rule 5110(b)(7)(C)(i).

(ss) Stock Exchange Listing. The Common Shares are registered pursuant to Section 12(b) or 12(g) of the Exchange Act and are listed on the Principal Market, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Shares under the Exchange Act or delisting the Common Shares from the Principal market, nor has the Company received any notification that the Commission or the Principal Market is contemplating terminating such registration or listing. To the Company's knowledge, it is in compliance with all applicable listing requirements of the Principal Market.

Any certificate signed by any officer or representative of the Company or any of its subsidiaries and delivered to the Agent or counsel for the Agent in connection with an issuance of Shares shall be deemed a representation and warranty by the Company to the Agent as to the matters covered thereby on the date of such certificate.

The Company acknowledges that the Agent and, for purposes of the opinions to be delivered pursuant to Section 4(p) and Section 5(a)(v) hereof, counsel to the Company and counsel to the Agent, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

Section 3. ISSUANCE AND SALE OF COMMON SHARES

(a) Sale of Securities. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company and the Agent agree that the Company may from time to time seek to sell Shares through the Agent, acting as sales agent, or directly to the Agent, acting as principal, as follows, with an aggregate Sales Price of up to the Maximum Program Amount, based on and in accordance with Issuance Notices as the Company may deliver, during the Agency Period.

(b) Mechanics of Issuances.

(i) Issuance Notice. Upon the terms and subject to the conditions set forth herein, on any Trading Day during the Agency Period on which the conditions set forth in Section 5(a) and Section 5(b) shall have been satisfied, the Company may exercise its right to request an issuance of Shares by delivering to the Agent an Issuance Notice; *provided, however*, that (A) in no event may the Company deliver an Issuance Notice to the extent that (I) the sum of (x) the aggregate Sales Price of the requested Issuance Amount, plus (y) the aggregate Sales Price of all Shares issued under all previous Issuance Notices effected pursuant to this Agreement, would exceed the Maximum Program Amount; and (B) prior to delivery of any Issuance Notice, the

period set forth for any previous Issuance Notice shall have expired or been terminated. An Issuance Notice shall be considered delivered on the Trading Day that it is received by e-mail to the persons set forth in Schedule A hereto and confirmed by the Company by telephone (including a voicemail message to the persons so identified), with the understanding that, with adequate prior written notice, the Agent may modify the list of such persons from time to time.

(ii) Agent Efforts. Upon the terms and subject to the conditions set forth in this Agreement, upon the receipt of an Issuance Notice, the Agent will use its commercially reasonable efforts consistent with its normal sales and trading practices to place the Shares with respect to which the Agent has agreed to act as sales agent, subject to, and in accordance with the information specified in, the Issuance Notice, unless the sale of the Shares described therein has been suspended, cancelled or otherwise terminated in accordance with the terms of this Agreement. For the avoidance of doubt, the parties to this Agreement may modify an Issuance Notice at any time provided they both agree in writing to any such modification.

(iii) Method of Offer and Sale. The Shares may be offered and sold (A) in privately negotiated transactions with the consent of the Company; (B) as block transactions with the consent of the Company; or (C) by any other method permitted by law deemed to be an "at the market offering" as defined in Rule 415(a)(4) under the Securities Act, including sales made directly on the Principal Market or sales made into any other existing trading market of the Common Shares. Nothing in this Agreement shall be deemed to require either party to agree to the method of offer and sale specified in the preceding sentence, and (except as specified in clauses (A) and (B) above) the method of placement of any Shares by the Agent shall be at the Agent's discretion.

(iv) Confirmation to the Company. If acting as sales agent hereunder, the Agent will provide written confirmation to the Company no later than the opening of the Trading Day next following the Trading Day on which it has placed Shares hereunder setting forth the number of Shares sold on such Trading Day, the corresponding Sales Price and the Issuance Price payable to the Company in respect thereof.

(v) Settlement. Each issuance of Shares will be settled on the applicable Settlement Date for such issuance of Shares and, subject to the provisions of Section 5, on or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Shares being sold by crediting the Agent or its designee's account at The Depository Trust Company through its Deposit/Withdrawal At Custodian (DWAC) System, or by such other means of delivery as may be mutually agreed upon by the parties hereto and, upon receipt of such Shares, which in all cases shall be freely tradable, transferable, registered shares in good deliverable form, the Agent will deliver, by wire transfer of immediately available funds, the related Issuance Price in same day funds delivered to an account designated by the Company prior to the Settlement Date. The Company may sell Shares to the Agent as principal at a price agreed upon at each relevant time Shares are sold pursuant to this Agreement (each, a "**Time of Sale**").

(vi) Suspension or Termination of Sales. Consistent with standard market settlement practices, the Company or the Agent may, upon notice to the other party hereto in writing (including by email correspondence to each of the individuals of the other party whose names are set forth on Schedule A) or by telephone (confirmed immediately by verifiable email), suspend

any sale of Shares, and the period set forth in an Issuance Notice shall immediately terminate; *provided, however*, that (A) such suspension and termination shall not affect or impair either party's obligations with respect to any Shares placed or sold hereunder prior to the receipt of such notice; (B) if the Company suspends or terminates any sale of Shares after the Agent confirms such sale to the Company, the Company shall still be obligated to comply with Section 3(b)(v) with respect to such Shares; and (C) if the Company defaults in its obligation to deliver Shares on a Settlement Date, the Company agrees that it will hold the Agent harmless against any loss, claim, damage or expense (including, without limitation, penalties, interest and reasonable legal fees and expenses), as incurred, arising out of or in connection with such default by the Company. The parties hereto acknowledge and agree that, in performing its obligations under this Agreement, the Agent may borrow Common Shares from stock lenders in the event that the Company has not delivered Shares to settle sales as required by subsection (v) above, and may use the Shares to settle or close out such borrowings. The Company agrees that no such notice shall be effective against the Agent unless it is made to the persons identified in writing by the Agent pursuant to Section 3(b)(i).

(vii) No Guarantee of Placement, Etc. The Company acknowledges and agrees that (A) there can be no assurance that the Agent will be successful in placing Shares; (B) the Agent will incur no liability or obligation to the Company or any other Person if it does not sell Shares; and (C) the Agent shall be under no obligation to purchase Shares on a principal basis pursuant to this Agreement, except as otherwise specifically agreed by the Agent and the Company.

(viii) Material Non-Public Information. Notwithstanding any other provision of this Agreement, the Company and the Agent agree that the Company shall not deliver any Issuance Notice to the Agent, and the Agent shall not be obligated to place any Shares, during any period in which the Company is in possession of material non-public information.

(c) Fees. As compensation for services rendered, the Company shall pay to the Agent, on the applicable Settlement Date, the Selling Commission for the applicable Issuance Amount (including with respect to any suspended or terminated sale pursuant to Section 3(b)(vi)) by the Agent deducting the Selling Commission from the applicable Issuance Amount.

(d) Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Shares (including all printing and engraving costs); (ii) all fees and expenses of the registrar and transfer agent of the Shares; (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Shares; (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors; (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Prospectus, any Free Writing Prospectus (as defined below) prepared by or on behalf of, used by, or referred to by the Company, and all amendments and supplements thereto, and this Agreement; (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Agent in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Shares for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada; (vii) the

reasonable and documented fees and disbursements of the Agent's counsel, including the reasonable fees and expenses of counsel for the Agent in connection with, FINRA review, if any, and approval of the Agent's participation in the offering and distribution of the Shares; (viii) the filing fees incident to FINRA review, if any; (ix) the fees and expenses associated with listing the Shares on the Principal Market; and (x) all expenses incurred by the Company in connection with any "road show" presentation to potential investors. The fees and disbursements of Agent's counsel pursuant to subsections (vi) and (vii) above shall not exceed (A) $50,000 in connection with the execution of this Agreement and (B) $15,000 in connection with each Triggering Event Date (as defined below) on which the Company is required to provide a certificate pursuant to Section 4(o).

Section 4. ADDITIONAL COVENANTS

The Company covenants and agrees with the Agent as follows, in addition to any other covenants and agreements made elsewhere in this Agreement:

(a) Exchange Act Compliance. During the Agency Period, the Company shall (i) file, on a timely basis, with the Commission all reports and documents required to be filed under Section 13, 14 or 15 of the Exchange Act in the manner and within the time periods required by the Exchange Act; and (ii) either, in the Company's sole discretion, (A) include in its quarterly reports on Form 10-Q and its annual reports on Form 10-K, a summary detailing, for the relevant reporting period, (1) the number of Shares sold, if any, through the Agent pursuant to this Agreement and (2) the net proceeds, if any, received by the Company from such sales or (B) prepare a prospectus supplement containing, or include in such other filing permitted by the Securities Act or Exchange Act (each an "**Interim Prospectus Supplement")**, such summary information and, at least once a quarter and subject to this Section 4, file such Interim Prospectus Supplement pursuant to Rule 424(b) under the Securities Act (and within the time periods required by Rule 424(b) and Rule 430B under the Securities Act).

(b) Securities Act Compliance. After the date of this Agreement, the Company shall promptly advise the Agent in writing (i) of the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) of the time and date of any filing of any post-effective amendment to the Registration Statement, any Rule 462(b) Registration Statement or any amendment or supplement to the Prospectus, or any Free Writing Prospectus; (iii) of the time and date that any post-effective amendment to the Registration Statement or any Rule 462(b) Registration Statement becomes effective; and (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto, any Rule 462(b) Registration Statement or any amendment or supplement to the Prospectus or of any order preventing or suspending the use of any Free Writing Prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Common Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its commercially reasonable efforts to obtain the lifting of such order as soon as practicable. Additionally, the Company agrees that it shall comply with the provisions of Rule 424(b) and Rule 433, as applicable, under the Securities Act and will use its reasonable efforts to

confirm that any filings made by the Company under such Rule 424(b) or Rule 433 were received in a timely manner by the Commission.

(c) Amendments and Supplements to the Prospectus and Other Securities Act Matters. If any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered to a purchaser, not misleading, or if in the opinion of the Agent or counsel for the Agent it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, including the Securities Act, the Company agrees (subject to Section 4(d) and Section 4(f)) to promptly prepare, file with the Commission and furnish at its own expense to the Agent, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered to a purchaser, be misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law including the Securities Act. Neither the Agent's consent to, or delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 4(d) and Section 4(f); *provided, however* that the only remedy the Agent shall have with respect to the failure by the Company to make such filing (other than the Agent's rights under Section 3(d) or Section 6 hereof) shall be to cease making sales under this Agreement until such amendment or supplement is filed; *provided further*, that the failure of the Company to file such amendment or supplement request shall not relieve the Company of any obligation or liability under Section 3(d) or Section 6 hereof, or affect the Agent's right to rely on the representations and warranties made by the Company in this Agreement. Notwithstanding the foregoing, the Company shall not be required to file such amendment or supplement if there is no pending Issuance Notice and the Company believes that it is in its best interest not to file such amendment or supplement.

(d) Agent's Review of Certain Proposed Amendments and Supplements. During any period in which an Issuance Notice is pending, prior to amending or supplementing the Registration Statement (including any registration statement filed under Rule 462(b) under the Securities Act) or the Prospectus (excluding any amendment or supplement through incorporation of any report filed under the Exchange Act), insofar as such proposed amendment or supplement relates to the Shares or the transactions contemplated hereby, the Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each such proposed amendment or supplement, and the Company shall not file or use any such proposed amendment or supplement without the Agent's prior consent, and the Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(e) Use of Free Writing Prospectus. Neither the Company nor the Agent has prepared, used, referred to or distributed, or will prepare, use, refer to or distribute, without the other party's prior written consent, any "written communication" that constitutes a "free writing prospectus" as such terms are defined in Rule 405 under the Securities Act with respect to the offering contemplated by this Agreement (any such free writing prospectus being referred to herein as a "**Free Writing Prospectus**").

(f) Free Writing Prospectuses. During any period in which an Issuance Notice is pending, the Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto to be prepared by or on behalf of, used by, or referred to by the Company insofar as such proposed amendment or supplement relates to the Shares and the transactions contemplated hereby, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Agent's consent. The Company shall furnish to the Agent, without charge, as many copies of any free writing prospectus prepared by or on behalf of, or used by the Company insofar as such proposed amendment or supplement relates to the Shares or the transactions contemplated hereby, as the Agent may reasonably request. If at any time when a prospectus is required by the Securities Act (including, without limitation, pursuant to Rule 173(d)) to be delivered in connection with sales of the Shares (but in any event if at any time through and including the date of this Agreement) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at that subsequent time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to eliminate or correct such conflict or so that the statements in such free writing prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such subsequent time, not misleading, as the case may be; *provided, however*, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Agent's consent.

(g) Filing of Agent Free Writing Prospectuses. The Company shall not take any action that would result in the Agent or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Agent that the Agent otherwise would not have been required to file thereunder.

(h) Copies of Registration Statement and Prospectus. After the date of this Agreement through the last time that a prospectus is required by the Securities Act (including, without limitation, pursuant to Rule 173(d)) to be delivered in connection with sales of the Shares, the Company agrees to furnish the Agent with copies (which may be electronic copies) of the Registration Statement and each amendment thereto, and with copies (which may be electronic copies) of the Prospectus and each amendment or supplement thereto in the form in which it is filed with the Commission pursuant to the Securities Act or Rule 424(b) under the Securities Act, both in such quantities as the Agent may reasonably request from time to time; and, if the delivery of a prospectus is required under the Securities Act or under the blue sky or securities laws of any jurisdiction at any time on or prior to the applicable Settlement Date for any period set forth in an Issuance Notice in connection with the offering or sale of the Shares and if at such time any event has occurred as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state any material fact necessary in order to make

the statements therein, in the light of the circumstances under which they were made when such Prospectus is delivered, not misleading, or, if for any other reason it is necessary during such same period to amend or supplement the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus in order to comply with the Securities Act or the Exchange Act, to notify the Agent and to request that the Agent suspend offers to sell Shares (and, if so notified, the Agent shall cease such offers as soon as practicable); and if the Company decides to amend or supplement the Registration Statement or the Prospectus as then amended or supplemented, to advise the Agent promptly by telephone (with confirmation in writing) and to prepare and cause to be filed promptly with the Commission an amendment or supplement to the Registration Statement or the Prospectus as then amended or supplemented that will correct such statement or omission or effect such compliance; provided, however, that if during such same period the Agent is required to deliver a prospectus in respect of transactions in the Shares, the Company shall promptly prepare and file with the Commission such an amendment or supplement.

(i) Blue Sky Compliance. The Company shall cooperate with the Agent and counsel for the Agent to qualify or register the Shares for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws of those jurisdictions designated by the Agent, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Shares. The Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation. The Company will advise the Agent promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Shares for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its commercially reasonable efforts to obtain the withdrawal thereof as soon as practicable.

(j) Earnings Statement. As soon as practicable, the Company will make generally available to its security holders and to the Agent an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the date of this Agreement which shall satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 under the Securities Act.

(k) Listing; Reservation of Shares. (a) The Company will maintain the listing of the Shares on the Principal Market; and (b) the Company will reserve and keep available at all times, free of preemptive rights, Shares for the purpose of enabling the Company to satisfy its obligations under this Agreement.

(l) Transfer Agent. The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Shares.

(m) Due Diligence. During the term of this Agreement, the Company will reasonably cooperate with any reasonable due diligence review conducted by the Agent in connection with the transactions contemplated hereby, including, without limitation, providing information and making available documents and senior corporate officers, during normal business hours and at the Company's principal offices, as the Agent may reasonably request from time to time.

(n) Representations and Warranties. The Company acknowledges that each delivery of an Issuance Notice and each delivery of Shares on a Settlement Date shall be deemed to be (i) an affirmation to the Agent that the representations and warranties of the Company contained in or made pursuant to this Agreement are true and correct as of the date of such Issuance Notice or of such Settlement Date, as the case may be, as though made at and as of each such date, except as may be disclosed in the Prospectus (including any documents incorporated by reference therein and any supplements thereto); and (ii) an undertaking that the Company will advise the Agent if any of such representations and warranties will not be true and correct as of the Settlement Date for the Shares relating to such Issuance Notice, as though made at and as of each such date (except that such representations and warranties shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented relating to such Shares).

(o) Deliverables at Triggering Event Dates; Certificates. The Company agrees that on or prior to the date of the first Issuance Notice and, during the term of this Agreement after the date of the first Issuance Notice, upon:

(A) the filing with the Commission of an amendment or supplement of any Registration Statement or Prospectus (other than a prospectus supplement relating solely to an offering of securities other than the Shares or a prospectus filed pursuant to Section 4(a)(ii)(B)), by means of a post-effective amendment, sticker or supplement, but not by means of incorporation of documents by reference into the Registration Statement or Prospectus;

(B) the filing with the Commission of an annual report on Form 10-K or a quarterly report on Form 10-Q, in each case, of the Company;

(C) the filing with the Commission of any Form 10-K/A or Form 10-Q/A containing amended financial information or a material amendment to the previously filed annual report on Form 10-K or quarterly report on Form 10-Q, in each case, of the Company; or

(D) the filing with the Commission of a current report on Form 8-K of the Company containing amended financial information (other than information "furnished" pursuant to Item 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to reclassification of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) that the Agent reasonably determines is material to the offering of securities of the Company;

(any such event described in clauses (A) through (D) above, a "**Triggering Event Date**"), the Company shall furnish the Agent (but in the case of clauses (C) or (D) above, only if the Agent reasonably determines that the information contained in such amendment to Form 10-K or Form 10-Q or such current report on Form 8-K of the Company is material to a holder of Common Shares and the Agent requests such certification after the filing of such amendment or Form 8-K with the Commission) with a certificate as of the Triggering Event Date, substantially in the form attached as Exhibit B hereto executed by the Chief Executive Officer, President or Chief Financial Officer of the Company. The requirement to provide a certificate under this Section 4(o) shall be automatically waived for any Triggering Event Date occurring at a time when no Issuance Notice is pending or a suspension is in effect, which waiver shall continue until the earlier to occur of the date the Company delivers instructions for the sale of Shares hereunder (which for such calendar

quarter shall be considered a Triggering Event Date) and the next occurring Triggering Event Date. Notwithstanding the foregoing, if the Company subsequently decides to sell Shares following a Triggering Event Date when a suspension was in effect and did not provide the Agent with a certificate under this Section 4(o), then before the Company delivers the instructions for the sale of Shares or the Agent sells any Shares pursuant to such instructions, the Company shall provide the Agent with a certificate in conformity with this Section 4(o) dated as of the date that the instructions for the sale of Shares are issued.

(p) Legal Opinions. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) for which no waiver is applicable and excluding the date of this Agreement, the Company shall cause Latham & Watkins LLP, counsel to the Company ("**Company Counsel**"), to furnish the Agent a negative assurances letter and the written legal opinion, each dated the date of delivery, in form and substance reasonably satisfactory to Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented. In lieu of such opinion for subsequent periodic filings, in the discretion of the Agent, the Company may furnish a reliance letter from counsel to the Company to the Agent, permitting the Agent to rely on a previously delivered opinion letter, modified as appropriate for any passage of time or Triggering Event Date (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of such Triggering Event Date). The Company shall be required to furnish no more than one opinion letter and negative assurance letter per counsel hereunder per filing of an annual report on Form 10-K or quarterly report on Form 10-Q.

(q) Comfort Letter. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) for which no waiver is applicable and excluding the date of this Agreement, the Company shall cause Ernst & Young LLP, the independent registered public accounting firm who has audited the financial statements included or incorporated by reference in the Registration Statement, to furnish the Agent a comfort letter, dated the date of delivery, in form and substance reasonably satisfactory to the Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel; provided, however, that any such comfort letter will only be required on the Triggering Event Date specified to the extent that it contains financial statements filed with the Commission under the Exchange Act and incorporated or deemed to be incorporated by reference into a Prospectus. The Company shall be required to furnish no more than one comfort letter hereunder per filing of an annual report on Form 10-K or quarterly report on Form 10-Q.

(r) Secretary's Certificate. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) for which no waiver is applicable and excluding the date of this Agreement, the Company shall furnish the Agent a certificate executed by the Secretary of the Company, signing in such capacity, dated the date of delivery substantially in the form as Exhibit C hereto, along with such certificates of good standing or other certificates of public officials as may be reasonably requested by Company Counsel or Agent Counsel (as defined below) in

connection with the rendering of their opinions and negative assurance letters as contemplated by Section 4(p) and Section 5(a)(v).

(s) Agent's Own Account; Clients' Account. The Company consents to the Agent trading, in compliance with applicable law, in the Common Shares for the Agent's own account and for the account of its clients at the same time as sales of the Shares occur pursuant to this Agreement.

(t) Investment Limitation. The Company shall not invest, or otherwise use the proceeds received by the Company from its sale of the Shares in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act.

(u) Market Activities. The Company will not take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation of the price of the Shares or any other reference security, whether to facilitate the sale or resale of the Shares or otherwise, and the Company will, and shall use commercially reasonable efforts to cause each of its affiliates to, comply with all applicable provisions of Regulation M. If the limitations of Rule 102 of Regulation M ("**Rule 102**") do not apply with respect to the Shares or any other reference security pursuant to any exception set forth in Section (d) of Rule 102, then promptly upon notice from the Agent (or, if later, at the time stated in the notice), the Company will, and shall use commercially reasonable efforts to cause each of its affiliates to, comply with Rule 102 as though such exception were not available but the other provisions of Rule 102 (as interpreted by the Commission) did apply. The Company shall promptly notify the Agent if it no longer meets the requirements set forth in Section (d) of Rule 102.

(v) Notice of Other Sale. Without the written consent of the Agent, the Company will not, directly or indirectly, offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Shares or securities convertible into or exchangeable for Common Shares (other than Shares hereunder), warrants or any rights to purchase or acquire Common Shares, during the period beginning on the third Trading Day immediately prior to the date on which any Issuance Notice is delivered to the Agent hereunder and ending on the earlier of (x) the third Trading Day immediately following the Settlement Date with respect to Shares sold pursuant to such Issuance Notice and (y) the date the Company notifies the Agent of the withdrawal of such Issuance Notice; and will not directly or indirectly enter into any other "at the market" or continuous equity transaction pursuant to which the Company (including through another person as agent or principal) offers to sell, sells, contracts to sell, grants any option to sell or otherwise disposes of any Common Shares (other than the Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Shares, warrants or any rights to purchase or acquire, Common Shares prior to the termination of this Agreement; provided, however, that such restrictions will not be required in connection with the Company's (i) issuance or sale of Common Shares, options to purchase Common Shares or Common Shares issuable upon the exercise of options or other equity awards pursuant to any employee or director share option, incentive or benefit plan, share purchase or ownership plan, long-term incentive plan, dividend reinvestment plan, inducement award under Nasdaq rules or other compensation plan of the Company or its subsidiaries whether now in effect or hereafter implemented, (ii) issuance or sale of Common Shares issuable upon exchange, conversion or redemption of securities or the exercise

or vesting of warrants, options or other equity awards disclosed in filings by the Company available on EDGAR or otherwise in writing to the Agent, (iii) modification of any outstanding options, warrants of any rights to purchase or acquire Common Shares and (iv) Common Shares or securities convertible into or exchangeable for Common Shares as consideration for mergers, acquisitions, other business combinations, collaboration agreements or strategic alliances occurring after the date of this Agreement which are not issued primarily for capital raising purposes.

Section 5. CONDITIONS TO DELIVERY OF ISSUANCE NOTICES AND TO SETTLEMENT

(a) Conditions Precedent to the Right of the Company to Deliver an Issuance Notice and the Obligation of the Agent to Sell Shares. The right of the Company to deliver an Issuance Notice hereunder is subject to the satisfaction, on the date of delivery of such Issuance Notice, and the obligation of the Agent to use its commercially reasonable efforts to place Shares during the applicable period set forth in the Issuance Notice is subject to the satisfaction, on each Trading Day during the applicable period set forth in the Issuance Notice, of each of the following conditions:

(i) Accuracy of the Company's Representations and Warranties; Performance by the Company. The Company shall have delivered the certificate required to be delivered pursuant to Section 4(o) on or before the date on which delivery of such certificate is required pursuant to Section 4(o). The Company shall have performed, satisfied and complied with all covenants, agreements and conditions required by this Agreement to be performed, satisfied or complied with by the Company at or prior to such date, including, but not limited to, the covenants contained in Section 4(p), Section 4(q) and Section 4(r).

(ii) No Injunction. No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction or any self-regulatory organization having authority over the matters contemplated hereby that prohibits or directly and materially adversely affects any of the transactions contemplated by this Agreement, and no proceeding shall have been commenced that may have the effect of prohibiting or materially adversely affecting any of the transactions contemplated by this Agreement.

(iii) Material Adverse Effect. Except as disclosed in the Prospectus and the Time of Sale Information, since the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been, in the judgment of the Agent, any Material Adverse Effect.

(iv) No Suspension of Trading in or Delisting of Common Shares; Other Events. The trading of the Common Shares (including without limitation the Shares) shall not have been suspended by the Commission, the Principal Market or FINRA and the Common Shares (including without limitation the Shares) shall have been approved for listing or quotation on and shall not have been delisted from the Nasdaq Stock

Market, the New York Stock Exchange or any of their constituent markets. There shall not have occurred (and be continuing in the case of occurrences under clauses (i) and (ii) below) any of the following: (i) trading or quotation in any of the Company's securities shall have been suspended or limited by the Commission or by the Principal Market or trading in securities generally on either the Principal Market shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges by the Commission or the FINRA; (ii) a general banking moratorium shall have been declared by any of federal or New York, authorities; or (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States' or international political, financial or economic conditions, as in the judgment of the Agent is material and adverse and makes it impracticable to market the Shares in the manner and on the terms described in the Prospectus or to enforce contracts for the sale of securities.

(v) Agent Counsel Opinion and Negative Assurances Letter. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) for which no waiver is applicable and excluding the date of this Agreement, Davis Polk & Wardwell LLP, counsel to the Agent ("**Agent Counsel**"), shall have furnished to the Agent a negative assurances letter and the written legal opinion, each dated the date of delivery, in form and substance reasonably satisfactory to the Agent, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented. In lieu of such opinion for subsequent periodic filings, Agent Counsel may furnish a reliance letter, permitting the Agent to rely on a previously delivered opinion letter, modified as appropriate for any passage of time or Triggering Event Date (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of such Triggering Event Date).

(b) Documents Required to be Delivered on each Issuance Notice Date. The Agent's obligation to use its commercially reasonable efforts to place Shares hereunder shall additionally be conditioned upon the delivery to the Agent on or before the Issuance Notice Date of a certificate in form and substance reasonably satisfactory to the Agent, executed by the Chief Executive Officer, President or Chief Financial Officer of the Company, to the effect that all conditions to the delivery of such Issuance Notice shall have been satisfied as at the date of such certificate as required to be delivered pursuant to Section 4(o) (which certificate shall not be required if the foregoing representations shall be set forth in the Issuance Notice).

(c) No Misstatement or Material Omission. Agent shall not have advised the Company that the Registration Statement, the Prospectus or the Times of Sales Information, or any amendment or supplement thereto, contains an untrue statement of fact that in the Agent's reasonable opinion is material, or omits to state a fact that in the Agent's reasonable opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

Section 6. INDEMNIFICATION AND CONTRIBUTION

(a) Indemnification of the Agent. The Company agrees to indemnify and hold harmless the Agent, its officers and employees, and each person, if any, who controls the Agent within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which the Agent or such officer, employee or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading; (ii) any untrue statement or alleged untrue statement of a material fact contained in any Free Writing Prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; or (iii) any act or failure to act or any alleged act or failure to act by the Agent in connection with, or relating in any manner to, the Common Shares or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon any matter covered by clause (i) or (ii) above, provided that the Company shall not be liable under this clause (iii) to the extent that a court of competent jurisdiction shall have determined by a final judgment that such loss, claim, damage, liability or action resulted directly from any such acts or failures to act undertaken or omitted to be taken by the Agent through its bad faith or willful misconduct, and to reimburse the Agent and each such officer, employee and controlling person for any and all reasonable and documented expenses (including the reasonable and documented fees and disbursements of counsel chosen by the Agent) as such expenses are reasonably incurred by the Agent or such officer, employee or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; provided, however, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use in the Registration Statement, any such Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information furnished by the Agent to the Company consists of the tenth paragraph under the caption “Plan of Distribution” in the Prospectus beginning with the words: “A prospectus supplement and the accompanying prospectus in electronic format. . . ” (the “**Agent Information**”). The indemnity agreement set forth in this Section 6(a) shall be in addition to any liabilities that the Company may otherwise have.

(b) Indemnification of the Company, its Directors and Officers. The Agent agrees to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as

incurred, to which the Company or any such director, officer or controlling person may become subject, under the Securities Act, the Exchange Act, or other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading; or (ii) any untrue statement or alleged untrue statement of a material fact contained in any Free Writing Prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and to reimburse the Company and each such director, officer and controlling person for any and all reasonable and documented expenses (including the reasonable and documented fees and disbursements of counsel chosen by the Company) as such expenses are reasonably incurred by the Company or such officer, director or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; *provided*, *however*, that the foregoing indemnity agreement shall only apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with the Agent Information expressly for use in the Registration Statement, any such Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto). The indemnity agreement set forth in this Section 6(b) shall be in addition to any liabilities that the Agent or the Company may otherwise have.

(c) Notifications and Other Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 6 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 6, notify the indemnifying party in writing of the commencement thereof, but the omission to so notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any indemnified party for contribution or otherwise than under the indemnity agreement contained in this Section 6 or to the extent it is not prejudiced as a proximate result of such failure. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; provided, however, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded based on the advice of counsel that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such

action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election to so assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 6 for any reasonable and documented legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by the Agent (in the case of counsel for the indemnified parties referred to in Section 6(a) above) or the Company (in the case of counsel for the indemnified parties referred to in Section 6(b) above), (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

(d) Settlements. The indemnifying party under this Section 6 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 6(b) hereof, the indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request; and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding.

(e) Contribution. If the indemnification provided for in this Section 6 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Agent, on the other hand, from the offering of the Shares pursuant to this Agreement; or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Agent, on the other

hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Agent, on the other hand, in connection with the offering of the Shares pursuant to this Agreement shall be deemed to be in the same respective proportions as the net proceeds from the offering of the Shares (net of commissions to the Agent but before deducting expenses) received by the Company bear to the total commissions received by the Agent. The relative fault of the Company, on the one hand, and the Agent, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, on the one hand, or the Agent, on the other hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 6(b), any reasonable and documented legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 6(b) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 6(e); *provided, however,* that no additional notice shall be required with respect to any action for which notice has been given under Section 6(b) for purposes of indemnification.

The Company and the Agent agree that it would not be just and equitable if contribution pursuant to this Section 6(e) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 6(e).

Notwithstanding the provisions of this Section 6(e), the Agent shall not be required to contribute any amount in excess of the agent fees received by the Agent in connection with the offering contemplated hereby. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 6(e), each officer and employee of the Agent and each person, if any, who controls the Agent within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as the Agent, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company with the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

Section 7. TERMINATION & SURVIVAL

(a) Term. Subject to the provisions of this Section 7, the term of this Agreement shall continue from the date of this Agreement until the end of the Agency Period, unless earlier terminated by the parties to this Agreement pursuant to this Section 7.

(b) Termination; Survival Following Termination.

(i) Either party may terminate this Agreement prior to the end of the Agency Period, by giving written notice as required by this Agreement, upon ten (10) days' notice to the other party; provided that, (A) if the Company terminates this Agreement after the Agent confirms to the Company any sale of Shares, the Company shall remain obligated to comply with Section 3(b)(v) with respect to such Shares and (B) Section 2, Section 6, Section 7 and Section 8 shall survive termination of this Agreement. If termination shall occur prior to the Settlement Date for any sale of Shares, such sale shall nevertheless settle in accordance with the terms of this Agreement.

(ii) In addition to the survival provision of Section 7(b)(i), the respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers and of the Agent set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of the Agent or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Shares sold hereunder and any termination of this Agreement.

Section 8. MISCELLANEOUS

(a) Press Releases and Disclosure. The Company may issue a press release describing the material terms of the transactions contemplated hereby as soon as practicable following the date of this Agreement, and may file with the Commission a current report on Form 8-K or annual report on Form 10-K, with this Agreement attached as an exhibit thereto, describing the material terms of the transactions contemplated hereby, and the Company shall consult with the Agent prior to making such disclosures, and the parties hereto shall use all commercially reasonable efforts, acting in good faith, to agree upon a text for such disclosures that is reasonably satisfactory to all parties hereto. No party hereto shall issue thereafter any press release or like public statement related to this Agreement or any of the transactions contemplated hereby without the prior written approval of the other party hereto, except as may be necessary or appropriate in the reasonable opinion of the party seeking to make disclosure to comply with the requirements of applicable law or stock exchange rules, including any disclosure regarding sales of Common Shares pursuant hereto on current reports on Form 8-K, quarterly reports on Form 10-Q or annual reports on Form 10-K. If any such press release or like public statement is so required (other than disclosure regarding sales of Common Shares pursuant hereto on current reports on Form 8-K, quarterly reports on Form 10-Q or annual reports on Form 10-K), the party making such disclosure shall consult with the other party prior to making such disclosure, and the parties shall use all commercially reasonable efforts, acting in good faith, to agree upon a text for such disclosure that is reasonably satisfactory to all parties hereto.

(b) No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (i) the transactions contemplated by this Agreement, including the determination of any fees, are arm's-length commercial transactions between the Company and the Agent, (ii) when acting as a principal under this Agreement, the Agent is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors, employees or any other party, (iii) the Agent has not assumed nor will assume an advisory or fiduciary responsibility in

favor of the Company with respect to the transactions contemplated hereby or the process leading thereto (irrespective of whether the Agent has advised or is currently advising the Company on other matters) and the Agent does not have any obligation to the Company with respect to the transactions contemplated hereby except the obligations expressly set forth in this Agreement, (iv) the Agent and its respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (v) the Agent has not provided any legal, accounting, regulatory or tax advice with respect to the transactions contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

(c) Research Analyst Independence. The Company acknowledges that the Agent's research analysts and research departments are required to and should be independent from their respective investment banking divisions and are subject to certain regulations and internal policies, and as such the Agent's research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company or the offering that differ from the views of their respective investment banking divisions. The Company understands that the Agent is a full service securities firm and as such from time to time, subject to applicable securities laws, may effect transactions for its own account or the account of its customers and hold long or short positions in debt or equity securities of the companies that may be the subject of the transactions contemplated by this Agreement.

(d) Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to the Agent:

Jefferies LLC
520 Madison Avenue
New York, NY 10022
Attention: General Counsel

with a copy (which shall not constitute notice) to:

Davis Polk & Wardwell LLP
1600 El Camino Real
Menlo Park, CA 94025
Attention: Alan F. Denenberg
E-mail: alan.denenberg@davispolk.com

If to the Company:

CytomX Therapeutics, Inc.
343 Oyster Point Blvd #100
South San Francisco, CA 94080
Attention: General Counsel

with a copy (which shall not constitute notice) to:

Latham & Watkins LLP
140 Scott Drive
Menlo Park, CA 94025
Attention: Mark Roeder; Miles Jennings
Email: mark.roeder@lw.com; miles.jennings@lw.com

Any party hereto may change the address for receipt of communications by giving written notice to the others in accordance with this Section 8(d).

(e) Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto, and to the benefit of the employees, officers and directors and controlling persons referred to in Section 6, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term "successors" shall not include any purchaser of the Shares as such from the Agent merely by reason of such purchase.

(f) Partial Unenforceability. The invalidity or unenforceability of any Article, Section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other Article, Section, paragraph or provision hereof. If any Article, Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

(g) Governing Law Provisions. This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York applicable to agreements made and to be performed in such state. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the "**Specified Courts**"), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party's address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

(h) General Provisions. This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and may be delivered by facsimile transmission or by electronic delivery of a portable document format (PDF) file. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by

each party whom the condition is meant to benefit. The Article and Section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

(i) Recognition of the U.S. Special Resolution Regimes.

(a) In the event that the Agent is a Covered Entity and becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from the Agent of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that the Agent is a Covered Entity or a BHC Act Affiliate of the Agent becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against the Agent are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

(c) As used in this Section 8(i):

"BHC Act Affiliate" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k).

"Covered Entity" means any of the following:

(i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);

(ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or

(iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

"U.S. Special Resolution Regime" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

[*Signature Page Immediately Follows*]

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms

Very truly yours,

CYTOMX THERAPEUTICS, INC.

By: /s/ Sean A. McCarthy
Name: Sean A. McCarthy, D. Phil.
Title: President and Chief Executive Officer

The foregoing Agreement is hereby confirmed and accepted by the Agent in New York, New York as of the date first above written.

JEFFERIES LLC

By: /s/ Michael Magarro
Name: Michael Magarro
Title: Managing Director

EXHIBIT A

ISSUANCE NOTICE

_____, 20__

Jefferies LLC
520 Madison Avenue
New York, New York 10022

Attn: _____

Reference is made to the Open Market Sale Agreement between CytomX Therapeutics, Inc., a Delaware corporation (the "**Company**"), and Jefferies LLC (the "**Agent**") dated as of February 27, 2020. The Company confirms that all conditions to the delivery of this Issuance Notice are satisfied as of the date hereof.

Date of Delivery of Issuance Notice (determined pursuant to Section 3(b)(i)): _____

Issuance Amount (equal to the total Sales Price for such Shares):

$

Number of days in selling period:

First date of selling period:

Last date of selling period:

Settlement Date(s) if other than standard T+2 settlement:

Floor Price Limitation (in no event less than $1.00 without the prior written consent of the Agent, which consent may be withheld in the Agent's sole discretion): $ ____ per share

Comments:

_____

By:

Name:
Title:

Schedule A

Notice Parties

The Company

Sean McCarthy
sean@cytomx.com
(650) 273 4618

The Agent

Michael Magarro
mmagarro@jefferies.com
(917) 421-1963

Donald Lynaugh
dlynaugh@jefferies.com
(917) 421-1946

EXHIBIT B

OFFICER'S CERTIFICATE

_____, 20__

Reference is made to that certain Sale Agreement, dated as of February 27, 2020 (the "**Agreement**"), by and between CytomX Therapeutics, Inc., a Delaware corporation (the "**Company**"), and Jefferies LLC. Capitalized terms used without definition herein shall have the meanings assigned thereto in the Agreement.

The undersigned, being the _____ of the Company, hereby certifies on behalf of the Company and not in a personal capacity (and with no personal liability therefor) as follows:

1. No stop order suspending the effectiveness of the Registration Statement is in effect, and no proceedings for such purpose are pending before or, to the best of my knowledge, threatened by the Commission.

2. The representations and warranties of the Company in Section 2 of the Agreement are true and correct on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof, except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date.

3. The Company has performed all of its obligations under the Agreement to be performed on or prior to the date hereof.

[*Signature Page Immediately Follows*]

1.

IN WITNESS WHEREOF, the undersigned has caused this certificate to be executed as of the date first written above.

_____
Name:
Title:

EXHIBIT C

SECRETARY'S CERTIFICATE

_____, 20__

Reference is made to that certain Sale Agreement, dated as of February 27, 2020 (the "**Agreement**") by and between CytomX Therapeutics, Inc., a Delaware corporation (the "**Company**"), and Jefferies LLC. Capitalized terms used without definition herein shall have the meanings assigned thereto in the Agreement.

The undersigned, being the Secretary of the Company, hereby certifies on behalf of the Company, and not in a personal capacity (and with no personal liability therefor) as follows:

1. No proceeding for the dissolution, merger, consolidation or liquidation of the Company or for the sale of all or substantially all of its assets is pending or, to the best of my knowledge, threatened, and no such proceeding is contemplated by the Company.

2. Attached hereto as Annex A is a true, correct and complete copy of the Amended and Restated Certificate of Incorporation of the Company, as amended to date (the "**Certificate of Incorporation**"), as certified by an appropriate public official of the State of Delaware and as in full force and effect as of _____, 20__. No action has been taken by the Company or its stockholders, directors or officers to effect or authorize any amendment or other modification to the Certificate of Incorporation since such date.

3. Attached hereto as Annex B is a true, correct and complete copy of the Amended and Restated Bylaws of the Company (the "**Bylaws**") as in effect at the date hereof and at all times since _____, 20__. No action has been taken by the Company or its stockholders, directors or officers to effect or authorize any amendment or other modification to the Bylaws.

4. Attached hereto as Annex C is a true, correct and complete copy of resolutions duly adopted by the Board of Directors of the Company on _____, 20__ authorizing the filing of the Registration Statement and the Prospectus, the execution and delivery of the Agreement and the consummation of the transactions contemplated thereby (including, without limitation, the issuance of the Shares pursuant to the Agreement). Such resolutions have not been amended or modified, are in full force and effect in the form adopted and are the only resolutions adopted by the Board of Directors or by any committee or officers of or designated by the Board of Directors relating to the Registration Statement, the offering of the Shares and the Agreement.

5. The Agreement as executed and delivered by the Company is in substantially the form approved by the Company's Board of Directors in the resolutions referred to in paragraph 4 above.

6. Each person who, as an officer or director of the Company, signed the Registration Statement and any amendment thereto was duly elected or appointed, qualified and acting as such officer or director at the respective times of the signing thereof and was duly authorized to sign such document on behalf of the Company, and the signature of each such person appearing on each such document is the genuine signature of such officer or director.

7. Each person who, as an officer of the Company, signed (a) the Agreement or (b) any other document delivered in connection with the sale and public offering of the Shares and the settlement related thereto was duly elected or appointed, qualified and acting as such officer at the respective times of the signing and delivery thereof and was duly authorized to sign such document on behalf of the Company, and the signature of each such person appearing on each such document is the genuine signature of such officer.

8. The minute books and records of the Company relating to all proceedings of the stockholders and the Board of Directors (and any committee of the Board of Directors) of the Company made available to Latham & Watkins LLP and Davis Polk & Wardwell LLP are the original minute books and records of the Company, or are true, correct and complete copies thereof, with respect to all proceedings of said stockholders, Board of Directors and committees since _____, 20__. The minute books, records and other documents of the Company made available to Latham & Watkins LLP and Davis Polk & Wardwell LLP were true, correct and complete in all respects, except for _____. There have been no material changes, additions or alterations in said minute books, records and other documents that have not been disclosed to Latham & Watkins LLP Davis Polk & Wardwell LLP in writing.

[*Signature Page Immediately Follows*]

1.

IN WITNESS WHEREOF, the undersigned has caused this certificate to be executed as of the date first written above.

_____
Name:
Title:

[*Signature Page to Secretary's Certificate*]

Exhibit 4.4

DESCRIPTION OF REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following summary describes the capital stock of CytomX Therapeutics, Inc. (the "Company," "we," "us," and "our") and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, the registration rights agreement to which we and a stockholder are parties and of the General Corporation Law of the State of Delaware. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws, and registration rights agreement, copies of which are incorporated by reference as exhibits to our Annual Report on Form 10-K.

As of December 31, 2019, CytomX Therapeutics, Inc. ("CytomX") had common stock, $0.00001 par value per share, registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and listed on The Nasdaq Global Select Market under the trading symbol "CTMX."

General

We have authorized 75,000,000 shares of common stock, $0.00001 par value per share, and 10,000,000 shares of preferred stock, $0.00001 par value per share under our amended and restated certificate of incorporation. As of December 31, 2019, there were outstanding:

- 45,523,088 shares of our common stock; and
- 9,936,168 shares of common stock subject to outstanding stock options.

As of December 31, 2019, there were approximately 36 holders on record of our common stock. This number does not include beneficial owners whose shares are held by nominees in street name.

Common Stock

Voting Rights

Holders of our common stock are entitled to one vote for each share of common stock held of record for the election of directors and on all matters submitted to a vote of stockholders. In the election of directors, a plurality of the votes cast at a meeting of stockholders is sufficient to elect a director. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors. In all other matters, except as noted below under "Anti-Takeover Effects of Delaware Law, Our Certificate of Incorporation and Our Bylaws," a majority vote of common stockholders is generally required to take action under our certificate of incorporation and bylaws.

Dividends

Holders of our common stock are entitled to receive dividends ratably, if any, as may be declared by our board of directors out of legally available funds, subject to any preferential dividend rights of any preferred stock then outstanding.

Liquidation

Upon our dissolution, liquidation or winding up, holders of our common stock are entitled to share ratably in our net assets legally available after the payment of all our debts and other liabilities, subject to the preferential rights of any preferred stock then outstanding.

Other Rights and Preferences

Holders of our common stock have no preemptive, subscription or conversion rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Our board of directors has the authority, without action by the stockholders, to designate and issue up to an aggregate of 10,000,000 shares of preferred stock in one or more series. The board of directors can fix the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. The issuance of preferred stock, while providing flexibility in connection with possible future financings and acquisitions and other corporate purposes could, under certain circumstances, have the effect of delaying or preventing a change in control of our company and might harm the market price of our common stock. As of December 31, 2019, no shares of preferred stock were outstanding, and we have no present plan to issue any shares of preferred stock.

Registration Rights Agreement

Pursuant to our registration rights agreement, as of December 31, 2019, Amgen Inc. (“Amgen”), the holder of 1,156,069 shares of our common stock, is entitled to require us register the resale of the shares purchased by Amgen pursuant to that certain share purchase agreement, dated September 29, 2017, between the Company and Amgen, on a registration statement to be filed with the Securities and Exchange Commission. The registration rights agreement contains customary indemnification provisions, and terminates if there are no registrable shares outstanding.

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

Our certificate of incorporation and bylaws include a number of provisions that may have the effect of encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Removal of Directors

Our certificate of incorporation and bylaws provide that subject to any limitations imposed by law and the rights of the holders of any series of our preferred stock, the board of directors or any individual director may be removed from office at any time without cause by the affirmative vote of the holders of a majority of the voting power of all the then-outstanding shares of voting stock of our company entitled to vote at an election of directors.

No Written Consent of Stockholders

Our bylaws provide that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting.

Staggered Board

Our board of directors is divided into three staggered classes of directors of the same or nearly the same number and each director will be assigned to one of the three classes. At each annual meeting of the stockholders, a class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. Our amended and restated certificate of incorporation provides that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class shall consist of one third of the board of directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Meetings of Stockholders

Our bylaws provide that special meetings of stockholders, which our company is not obligated to call more than once per calendar year, may only be called by the chairman of our board of directors, our chief executive officer, or our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors. In addition, our bylaws will limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our bylaws include advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not later than the close of business on the ninetieth (90th) day nor earlier than the close of business on the one hundred twentieth (120th) day prior to the first anniversary of the annual meeting for the preceding year. The notice must contain certain information specified in the bylaws. These provisions may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Amendment to Certificate of Incorporation and Bylaws

Our certificate of incorporation provides that the affirmative votes of the holders of at least a majority of the voting power of all of the then-outstanding shares of our voting stock will be required to amend certain provisions of our certificate of incorporation, including provisions relating to the size of our board of directors, removal of directors, special meeting of stockholders and actions by written consent. The affirmative votes of the holders of at least a majority of the voting power of all of the then-outstanding shares of our voting stock will be required to amend or repeal our bylaws. In addition, our bylaws may be amended by our board of directors, subject to any limitations set forth in the bylaws.

Blank Check Preferred Stock

Our certificate of incorporation provides for 10,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of us or our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law, as amended. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns, or did own

within three years prior to the determination of interested stockholder status, 15 percent or more of the corporation's voting stock.

Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85 percent of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or

- at or after the time the stockholder became interested, the business combination was approved by the board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least 66 2/3 percent of the outstanding voting stock which is not owned by the interested stockholder.

A Delaware corporation may "opt out" of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or bylaws resulting from a stockholders' amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

Delaware as Sole and Exclusive Forum

Our bylaws provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of us, (ii) any action asserting a claim of breach of a fiduciary duty owed by, or otherwise wrongdoing by, any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, as amended, or our certificate of incorporation or bylaws, (iv) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or bylaws, or (v) any action asserting a claim against us or any of our directors, officers or employees governed by the internal affairs doctrine.

Limitations of Liability and Indemnification

As permitted by the Delaware General Corporation Law, as amended, our amended and restated certificate of incorporation and amended and restated bylaws, in each case, limit or eliminate the personal liability of our directors. Consequently, a director will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;

- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

- any unlawful payments related to dividends or unlawful stock repurchases, redemptions or other distributions; or

- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the U.S. federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our amended and restated bylaws provide that:

- we will indemnify our directors, officers and, at the discretion of our board of directors, certain employees and agents to the fullest extent permitted by the Delaware General Corporation Law, as amended;

- we will advance expenses, including attorneys' fees, to our directors and to our officers and certain employees, in connection with legal proceedings, subject to limited exceptions; and

- the indemnification and advancement of expenses provided in our amended and restated bylaws are not exclusive of any other right to which our directors or officers may be entitled under any indemnification agreement we enter into with any individual director, officer, employee or agent.

We have entered into indemnification agreements with each of our executive officers and directors. The form of these agreements have been approved by our stockholders. These agreements provide that we will indemnify each of our executive officers and directors to the fullest extent permitted by law and advance expenses to each indemnitee in connection with any proceeding in which indemnification is available.

We have obtained general liability insurance that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

The above provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. The provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. We believe that these provisions, the indemnification agreements and the insurance are necessary to attract and retain talented and experienced directors and officers.

At present, there is no pending litigation or proceeding involving any of our directors or officers where indemnification will be required or permitted. We are not aware of any threatened litigation or proceedings that might result in a claim for such indemnification.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent and registrar's address is 462 South 4th Street, Suite 1600, Louisville, KY 40202.

140 Scott Drive
Menlo Park, California 94025
Tel: +1.650.328.4600 Fax: +1.650.463.2600
www.lw.com

LATHAM & WATKINS LLP

Exhibit 5.1

February 27, 2020

CytomX Therapeutics, Inc.
151 Oyster Point Blvd., Suite 400
South San Francisco, CA 94080

Re: Registration Statement No. 333-228203; Up to $75,000,000 of Shares of Common Stock, par value $0.00001 per share

Ladies and Gentlemen:

We have acted as special counsel to CytomX Therapeutics, Inc., a Delaware corporation (the "***Company***"), in connection with the proposed issuance from time to time of shares of common stock of the Company, par value $0.00001 per share, having an aggregate offering price of up to $75,000,000 (the "***Shares***"), by the Company pursuant to the Open Market Sale Agreement dated February 27, 2020 (the "***Sales Agreement***") between the Company and Jefferies LLC. The Shares are included in a registration statement on Form S-3 under the Securities Act of 1933, as amended (the "***Act***"), filed with the Securities and Exchange Commission (the "***Commission***") on April 3, 2017 (Registration No. 333–228203) (as amended, the "***Registration Statement***"), a related base prospectus dated February 11, 2019 (the "***Base Prospectus***") and a prospectus supplement dated February 27, 2020 filed with the Commission pursuant to Rule 424(b) under the Act (the "***Sales Agreement Prospectus***" and, together with the Base Prospectus, the "***Prospectus***"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act. No opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the Prospectus, other than as expressly stated herein with respect to the issue of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware, and we express no opinion with respect to any other laws.

LATHAM & WATKINS LLP

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when (i) the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers, and (ii) have been issued by the Company against payment therefor in total numbers that do not exceed the total number of shares available under the Company's certificate of incorporation and in the circumstances contemplated by the Sales Agreement, (a) the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, (b) the Shares will be validly issued, and (c) the Shares will be fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the General Corporation Law of the State of Delaware.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Company's Form 10-K dated February 27, 2020 and to the reference to our firm in the Prospectus under the heading "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Latham & Watkins

US-DOCS\114264363.3

Exhibit 10.32

Amended and Restated Severance and Change of Control Agreement

This Amended and Restated Severance and Change of Control Agreement (the "Agreement") is made and entered into, effective as of February 3, 2020 (the "Effective Date"), by and between CytomX Therapeutics, Inc. a Delaware corporation (the "Company"), and Alison Hannah, M.D. ("Employee").

Upon acceptance of this Agreement, the following terms and conditions shall apply to your employment:

1. **Term of Employment and Severance Benefits**. It is important for you to understand that California is an "at will" employment state. This means that you will have the right to terminate your employment relationship with the Company at any time for any reason. Similarly, the Company will have the right to terminate its employment relationship with you at any time for any reason. Your employment and this Agreement will be governed by the laws of California, without regard to the conflict of law rules thereof. Notwithstanding the foregoing, in the event that, other than during a Change of Control Period (as defined below), the Company terminates your employment at any time without Cause (as defined below), or if you terminate your employment for Good Reason (as defined below), then the Company shall pay you a lump sum amount equal to (i) twelve (12) months of your then current base salary (without giving any effect to any reduction thereof which may constitute Good Reason), plus (ii) the annual bonus you are eligible to receive for the Calendar year in which your termination occurs assuming performance is achieved at target and pro-rated based on your termination date, which will be payable within the period of time set forth in Section 3 below following your termination of employment. In addition, the Company will provide and pay the premium cost for you and your dependents of medical and dental insurance benefits to the extent you were receiving such benefits immediately prior to your termination date from the date of your termination of employment through the earlier of the twelve (12) month anniversary of the termination of your employment, or the date you become eligible for medical and dental insurance benefits from a subsequent employer, provided, that you timely elect "COBRA" coverage under the Company group health insurance plan under which coverage was being provided to you at the time when your employment terminates. If the Company is unable to provide such medical and dental insurance benefits or "COBRA" coverage is not available to you as of the time when your employment is terminated, then the Company will pay to you a lump sum equal to the premium cost of the benefits provided for the twelve (12) months prior to your termination, payable within the period of time set forth in Section 3 below following your termination of employment.

2. **Termination in Connection with a Change of Control**. In the event that within sixty (60) days before or twelve (12) months following the consummation of a Change of Control (as defined below) (the "Change of Control Period"), the Company, or any successor thereto, terminates your employment without Cause or you terminate your employment for Good Reason, then the Company shall (i) pay a lump sum amount equal to twelve (12) months of your then current base salary (without giving any effect to any reduction thereof which may constitute Good Reason), which will be payable within the period of time set forth in Section 3 below following your termination of employment, (ii) pay a lump

sum amount equal to twelve (12) months of the annual bonus you are eligible to receive for the current Calendar year assuming performance is achieved at target and, which will be payable within the period of time set forth in Section 3 below following your termination of employment, and (iii) the vesting and, if applicable, exercisability of each Company equity award held by you, including, without limitation, each stock option of any kind and nature (e.g., time or performance based, etc.), shall accelerate in full as of immediately prior to your termination of employment. In addition, the Company will provide and pay the premium cost for you and your dependents of medical and dental insurance benefits to the extent you were receiving such benefits immediately prior to your termination date from the date of your termination of employment through the earlier of the twelve (12) month anniversary of the termination of your employment or the date you become eligible for medical and dental insurance benefits from a subsequent employer, provided that you timely elect "COBRA" coverage under the Company group health insurance plan under which coverage was being provided to you at the time when your employment terminates. If the Company is unable to provide such medical and dental insurance benefits or "COBRA" coverage is not available to you as of the time when your employment is terminated, then the Company will pay to you a lump sum equal to the premium cost of the benefits provided for the twelve (12) months prior to your termination, payable within the period of time set forth in Section 3 below following your termination of employment.

3. **Release**. The Company's obligations to make such payments and provide such benefits shall be contingent upon your execution of a release in a form reasonably acceptable to the Company (the "Release") which Release must be signed and any applicable revocation period with respect thereto must have expired by the 30th day following your termination of employment (unless your termination is “in connection with an exit incentive or other employment termination program” (as such phrase is defined in the Age Discrimination in Employment Act of 1967), in which case the date shall be by the 52nd day following your termination of employment). The Release will not waive any of your rights, or obligations of the Company, regarding: (1) any right to indemnification and/or contribution, advancement or payment of related expenses you may have pursuant to the Company’s Bylaws, Articles of Incorporation, under any written indemnification or other agreement between the parties, and/or under applicable law; (2) any rights that you may have to insurance coverage under any directors and officers liability insurance, other insurance policies of the Company, COBRA or any similar state law; (3) any claims for worker’s compensation, state disability or unemployment insurance benefits, or any other claims that cannot be released as a matter of applicable law; (4) rights to any vested benefits under any stock, compensation or other employee benefit plan of the Company; (5) any rights you may have as an existing shareholder of the Company; and (6) any claims arising after the effective date of the Release. Nothing in the Release or any other agreement between you and the Company will prohibit or prevent you from providing truthful testimony or otherwise responding accurately and fully to any question, inquiry or request for information or documents when required by legal process, subpoena, notice, court order or law (including, without limitation, in any criminal, civil, or regulatory proceeding or investigation), or as necessary in any action for enforcement or claimed breach of this Agreement or any other legal dispute with the Company. If the Release has been signed and any applicable revocation period has expired prior to the 30th day (or 52nd day, as applicable) following your termination of employment, then the severance payments above may be made on such earlier date; provided, however, that if the 30th day (or 52nd day, as applicable) following your termination of employment occurs in the calendar year following the year of your termination date, then the payments shall not be made earlier than January 1 of such subsequent calendar year.

4. **Section 280G of the Code**.

(a) Notwithstanding anything in this Agreement to the contrary, if any payment, distribution, or other benefit provided by the Company to or for the benefit of you, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise (collectively, the "Payments"), (x) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (y) but for this Section 4 would be subject to the excise tax imposed by Section 4999 of the Code or any similar or successor provision thereto (the "Excise Tax"), then the Payments shall be either: (i) delivered in full pursuant to the terms of this Agreement, or (ii) delivered to such lesser extent as would result in no portion of the payment being subject to the Excise Tax, as determined in accordance with Section 4(b).

(b) The determination of whether Section 4(a)(i) or Section 4(a)(ii) shall be given effect shall be made by the Company on the basis of which of such clauses results in the receipt by you of the greater Net After-Tax Receipt (as defined herein) of the aggregate Payments. The term "Net After-Tax Receipt" shall mean the present value (as determined in accordance with Section 280G of the Code) of the payments net of all applicable federal, state and local income, employment, and other applicable taxes and the Excise Tax.

(c) If Section 4(a)(ii) is given effect, the reduction shall be accomplished in accordance with Section 409A of the Code and the following: first by reducing, on a pro rata basis, cash Payments that are exempt from Section 409A of the Code; second by reducing, on a pro rata basis, other cash Payments; and third by forfeiting any equity-based awards that vest and become payable, starting with the most recent equity-based awards that vest, to the extent necessary to accomplish such reduction.

(d) Unless the Company and Employee otherwise agree in writing, any determination required under this Section 4 shall be made by the Company's independent accountants or compensation consultants (the "Third Party"), and all such determinations shall be conclusive, final and binding on the parties hereto. The Company and Employee shall furnish to the Third Party such information and documents as the Third Party may reasonably request in order to make a determination under this Section 4. The Company shall bear all fees and costs of the Third Party with respect to all determinations under or contemplated by this Section 4.

For purposes of this Agreement, a "Change of Control" shall mean the occurrence of any of the following events, provided that such event or occurrence constitutes a change in the ownership or effective control of the Company, or a change in the ownership of a substantial portion of the assets of the Company, as defined in Treasury Regulation §§ 1.409A-3(i)(5)(v), (vi), and (vii): (i) any merger or consolidation that results in the voting securities of the Company outstanding immediately prior thereto representing (either by remaining outstanding or by being converted into voting securities of the surviving or acquiring entity) less than 50% of the combined voting power of the voting securities of the Company or such surviving or acquiring entity outstanding immediately after such merger or consolidation; (ii) any sale of all or substantially all of the assets of the Company; (iii) the complete liquidation or dissolution of the Company; or (iv) the acquisition of "beneficial ownership" (as defined in Rule 13d-3 under the Exchange Act) of securities of the Company representing 50% or more of the combined voting power of the Company's then outstanding securities (other than through a merger or consolidation or an acquisition of securities directly from the Company) by any "person," as such term is used in Sections 13(d) and 14(d) of the Exchange Act, or combination of persons, other than the Company, any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any corporation owned directly or indirectly by the stockholders of the Company in substantially the same proportion as their ownership of stock of the Company.

For purposes of this Agreement, "Cause" shall mean a termination of your employment based upon a finding by a majority of the Board of Directors of the Company or its successor, acting in good faith and based on its reasonable belief at the time, that you (a) have refused to perform the explicitly stated or reasonably assigned lawful and material duties required by your position (other than by reason of a disability or analogous condition); (b) have committed or engaged in a material act of theft, embezzlement, dishonesty or fraud, a breach of confidentiality, an unauthorized disclosure or use of inside information, customer lists, trade secrets or other confidential information; (c) have breached a material fiduciary duty, or willfully and materially violated any other duty, law, rule, or regulation relating to the performance of your duties to the Company or material policy of the Company or its successor; (d) have been convicted of, or pled guilty or nolo contendere to, misdemeanor involving moral turpitude or a felony; (e) have willfully and materially breached any of the provisions of any agreement with the Company or its successor which causes material injury to the Company; (f) have willfully engaged in unfair competition with, or otherwise acted intentionally in a manner materially injurious to the reputation, business or assets of, the Company or its successor; or (g) have improperly induced a vendor or customer to break or terminate any material contract with the Company or its successor or induced a principal for whom the Company or its successor acts as agent to terminate such agency relationship. "Cause" shall only exist if the Company first provides you with written notice of any claimed ground for Cause and an opportunity to cure such ground, if curable, for thirty (30) days. For purposes of this Agreement, no act or failure to act on your part will be considered "willful" unless it is done, or omitted to be done, by you intentionally, not in good faith and without reasonable belief that the action or omission was in the best interest of the Company.

For purposes of this Agreement, "Good Reason" shall mean the occurrence of any of the following events or circumstances without your written consent: (i) a material diminution in your base compensation; (ii) a material diminution in your authority, duties or responsibility; (iii) a material change in the principal geographic location at which you must perform services from South San Francisco, California; (iv) any requirement that you engage in any illegal conduct; or (v) a material breach by the Company of this Agreement or any other material written agreement between you and the Company.

In order to establish a "Good Reason" for terminating employment, you must provide written notice to the Company of the existence of the condition giving rise to the Good Reason, which notice must be provided within 90 days of the initial existence of such condition, the Company must fail to cure the condition within 30 days thereafter, and your termination of employment must occur no later than 30 days following the expiration of that 30-day cure period.

All severance or change of control payments are intended to be exempt from or, if not, shall be made in full compliance with Section 409A and shall begin only upon the date of your "separation from service" (as defined below), which occurs on or after the date of termination of the employment relationship, and shall be subject to the rules set forth below.

(a) It is intended that each installment, if any, of the severance or change of control payments and benefits provided under this Agreement shall be treated as a separate "payment" for purposes of Section 409 A of the Internal Revenue Code and the guidance issued thereunder ("Section 409A"). Neither you nor the Company shall have the right to accelerate or defer the delivery of any such payments or benefits except to the extent specifically permitted or required by Section 409A.

(b) If, as of the date of your "separation from service" from the Company, you are not a "specified employee" (within the meaning of Section 409A), then each installment, if any, of the severance or change of control payments and benefits shall be made on the dates and terms set forth in this Agreement.

(c) If, as of the date of your "separation from service" from the Company, you are a "specified employee" (within the meaning of Section 409A), then:

(i) Each installment, if any, of the severance or change of control payments and benefits due under this Agreement that, in accordance with the dates and terms set forth herein, will in all circumstances, regardless of when the separation from service occurs, be paid within the short-term deferral period (as defined under Section 409A) shall be treated as a short-term deferral within the meaning of Treasury Regulation Section 1.409A-l(b)(4) to the maximum extent permissible under Section 409A; and

(ii) Each installment, if any, of the severance or change of control payments and benefits due under this Agreement that is not described in paragraph (i) above and that would, absent this subsection, be paid within the six-month period following your "separation from service" from the Company shall not be paid until the date that is six months and one day after such separation from service (or, if earlier, upon your death), with any such installments that are required to be delayed being accumulated during the six-month period and paid in a lump sum on the date that is six months and one day following your separation from service and any subsequent installments, if any, being paid in accordance with the dates and terms set forth herein; provided, however, that the preceding provisions of this sentence shall not apply to any installment of severance or change of control payments and benefits if and to the maximum extent that that such installment is deemed to be paid under a separation pay plan that does not provide for a deferral of compensation by reason of the application of Treasury Regulation Section 1.409A-l(b)(9)(iii) (relating to separation pay upon an involuntary separation from service). Any installments that qualify for the exception under Treasury Regulation Section 1.409A-l(b)(9)(iii) must be paid no later than the last day of your second taxable year following the taxable year in which the separation from service occurs.

(d) The determination of whether and when your separation from service from the Company has occurred shall be made and in a manner consistent with and based on the presumptions set forth in, Treasury Regulation Section 1.409A-l(h). Solely for purposes of this paragraph (d), "the Company" shall include all persons with whom the Company would be considered a single employer under Sections 414(b) and 414(c) of the Code.

(e) All reimbursements and in-kind benefits provided under this Agreement shall be made or provided in accordance with the requirements of Section 409A to the extent that such reimbursements or in-kind benefits are subject to Section 409A, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during your lifetime (or during a shorter period of time specified in this Agreement), (ii) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense will be made on or before the last day of the calendar year following the year in which the expense is incurred and (iv) the right to reimbursement is not subject to set off or liquidation or exchange for any other benefit.

(f) If either you or the Company reasonably determines that any payment hereunder will violate Section 409A, you and the Company shall use best efforts to restructure the payment in a manner that is either exempt from or compliant with Section 409A. You and the Company agree that they will execute any and all amendments to this Agreement as may be necessary to ensure compliance with the distribution provisions of Section 409A in an effort to avoid or minimize, to the extent allowable by law, the tax (and any interest or penalties thereon) associated with Section 409A. If it is determined that a payment under this Agreement was (or may be) made in violation of Section 409A, the Company will cooperate reasonably with any effort by you to mitigate the tax consequences of such violation, including cooperation with your participation in any IRS voluntary compliance program or other correction procedure under Section 409A that may be available to you.

This Agreement will be binding on the parties and their successors and assigns. The Company shall require any successors or assigns to expressly assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession or assignment had taken place. The terms of this Agreement and all of your rights hereunder will inure to the benefit of, and be enforceable by, your personal representatives, executors, administrators, successors, heirs, distributes, devisees and legatees.

This Agreement shall be governed by and construed in accordance with California law, without regard to the conflict of law rules thereof.

If any provision of this Agreement is determined to be illegal or unenforceable, then the remainder of this Agreement nonetheless shall be fully enforceable and binding upon the parties hereto, and it is the intent of the parties that a court or arbitrator shall enforce the remainder of this Agreement to the maximum extent permitted by law. The prevailing party in any dispute concerning the interpretation or enforcement of this Agreement will be entitled to an award of his or its costs and reasonable attorneys' fees, in addition to any other eligible relief.

This Agreement (a) represents our entire understanding regarding the subject matter hereof, and supersedes and replaces all prior and contemporaneous understandings regarding such subject matter, whether oral or written, and (b) may not be modified or amended, except by a written instrument executed by you and by a duly authorized officer of the Company. In the event of any conflict between any of the terms in this Agreement and the terms of any other agreement between you and the Company, the terms of this Agreement shall control.

ACCEPTANCE

The undersigned agrees to and accepts the terms and conditions set forth above.

25-January-2020	/s/ Alison Hannah, M.D.
Date	Alison Hannah, M.D.
29-January-2020	/s/ Sean McCarthy
Date	Sean McCarthy, Chief Executive Officer

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Form S-3 (Nos. 333-216567 and 333-228203) and Form S-8 (Nos. 333-229916, 333-207694, 333-209992, 333-215795 and 333-223491) of CytomX Therapeutics, Inc. of our reports dated February 27, 2020, with respect to the financial statements of CytomX Therapeutics, Inc. and the effectiveness of internal control over financial reporting of CytomX Therapeutics, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2019.

/s/ Ernst & Young LLP

Redwood City, California
February 27, 2020

Exhibit 31.1

CERTIFICATIONS

I, Sean A. McCarthy, certify that:

1. I have reviewed this Annual Report on Form 10-K of CytomX Therapeutics, Inc. for the year ended December 31, 2019;
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.
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2020

/s/ Sean A. McCarthy
Sean A. McCarthy, D.Phil.
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Sean A. McCarthy, certify that:

1. I have reviewed this Annual Report on Form 10-K of CytomX Therapeutics, Inc. for the year ended December 31, 2019;
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 my 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.
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2020

/s/ Sean A. McCarthy
Sean A. McCarthy
Principal Financial Officer

Exhibit 32.1

SECTION 1350 CERTIFICATIONS*

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), Sean A. McCarthy, D.Phil., President and Chief Executive Officer and Principal Financial Officer of CytomX Therapeutics, Inc. (the "Company"), hereby certifies that, to the best of his knowledge:

1. The Company's Annual Report on Form 10-K for the year ended December 31, 2019 to which this Certification is attached as Exhibit 32.1 (the "Annual Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the period covered by the Annual Report.

Dated: February 27, 2020

/s/ Sean A. McCarthy	/s/ Sean A. McCarthy
Sean A. McCarthy, D.Phil.	Sean A. McCarthy, D.Phil.
President and Chief Executive Officer	Principal Financial Officer
(Principal Executive Officer)	*(Principal Financial Officer)*

* This certification accompanies the Annual Report on Form 10-K, to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.