UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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, 2018
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: 001-36182

Xencor, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**20-1622502**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
111 West Lemon Avenue, Monrovia, CA	**91016**
(Address of Principal Executive Offices)	(Zip Code)

(626) 305-5900
(Registrant's Telephone Number, Including Area Code)

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

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, par value $0.01 per share	The NASDAQ Stock Market LLC

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

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

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold as of June 30, 2018 was $2,046,791,343

The number of outstanding shares of the registrant's common stock, par value $0.01 per share, as of February 15, 2019 was 56,292,169.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A in connection with the registrant's 2019 Annual Meeting of Stockholders, which will be filed subsequent to the date hereof, are incorporated by reference into Part III of this Form 10-K. Such proxy statement will be filed with the Securities and Exchange Commission not later than 120 days following the end of the registrant's fiscal year ended December 31, 2018.

Xencor, Inc.
FORM 10-K
For the Fiscal Year Ended December 31, 2018
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 References in this Annual Report on Form 10-K to "we", "our", "us", "Xencor" or "the Company" refer to Xencor, Inc.

PART I

Forward-Looking Statements

This Annual Report on Form 10-K or this Annual Report, may contain "forward-looking statements" within the meaning of the federal securities laws made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends affecting the financial condition of our business. Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time those statements are made and/or management's good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below under Part I, Item 1A, "Risk Factors" in this Annual Report. These statements, which represent our current expectations or beliefs concerning various future events, may contain words such as "may," "will," "expect," "anticipate," "intend," "plan," "believe," "estimate" or other words indicating future results. Such statements may include, but are not limited to, statements concerning the following:

- the initiation, cost, timing, progress and results of our research and development activities, preclinical studies and future clinical trials;
- our ability to obtain and maintain regulatory approval of our future product candidates, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations;
- our plans to research, develop and commercialize our future product candidates;
- our strategic alliance partners' election to pursue development and commercialization;
- our ability to attract collaborators with development, regulatory, and commercialization expertise;
- our ability to obtain and maintain intellectual property protection for our future product candidates;
- the size and growth potential of the markets for our future product candidates, and our ability to serve those markets;
- our ability to successfully commercialize our future product candidates;
- the rate and degree of market acceptance of our future product candidates;
- our ability to develop sales and marketing capabilities, whether alone or with potential future collaborators;
- regulatory developments in the United States (U.S.) and foreign countries;
- the performance of our third-party suppliers and manufacturers;
- the success of competing therapies that are or become available;
- the loss of key scientific or management personnel;
- our failure to successfully execute our growth strategy including any delays in our planned future growth;

- our failure to maintain effective internal controls; and
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and need for additional financing.

Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this Annual Report on Form 10-K and, except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events, or otherwise after the date of this Annual Report on Form 10-K. We qualify all of our forward-looking statements by these cautionary statements.

Item 1. Business.

Our Business

We are a clinical-stage biopharmaceutical company focused on discovering and developing engineered monoclonal antibody and other protein therapeutics to treat severe and life-threatening diseases with unmet medical needs. We are developing a suite of clinical-stage drug candidates from our proprietary XmAb® technology platforms that are designed to treat cancer, autoimmune and allergic diseases, and other conditions. In contrast to conventional approaches to antibody design, which focus on the portion of antibodies that interact with target antigens, our protein engineering efforts and the XmAb technologies are focused on the portion of the antibody that interacts with multiple segments of the immune system and controls antibody structure. This portion, referred to as the Fc domain, is constant and interchangeable among antibodies. Our engineered Fc domains, the XmAb technology, can be readily substituted for natural Fc domains.

We believe our Fc domains enhance antibody performance by, for example, increasing immune inhibitory activity, improving cytotoxicity, extending circulating half-life, or stabilizing novel antibody and other protein structures, while maintaining 99.5% identity in structure and sequence to natural antibodies. By designing antibodies and other protein molecules with improved function, we believe that our XmAb-engineered proteins offer innovative approaches to treating disease and potential clinical advantages over other treatments. In December 2018, the first antibody that incorporates an XmAb technology, ALXN1210, now Ultomiris™, was approved by the United States Food & Drug Administration (FDA) for commercial marketing. Ultomiris™ is a complement inhibitor indicated for the treatment of adult patients with paroxysmal nocturnal hemoglobinuria (PNH) that was developed by our partner Alexion, and incorporates our Xtend Fc technology which allows for a longer duration of action and less frequent dosing regimens compared to the previously approved therapy, Soliris®.

Our protein engineering capabilities allow us to continually explore new functionality in the Fc region, which provides us with opportunities to:

- Identify new technology platforms;
- Identify new drug candidates for internal development; and
- Provide collaboration and licensing opportunities with partners for access to our technologies, to our drug candidates, or a combination of both.

The most recent expansion of our platform is the XmAb bispecific Fc domains, which enable the rapid design and simplified development of antibodies and other protein structures that bind two or more different targets simultaneously. Bispecifics are a rapidly emerging area of biotherapeutics development, particularly in oncology, and we are using our XmAb bispecific Fc domains as a robust scaffold to develop a pipeline of new bispecific antibody and cytokine drug candidates.

Our business strategy is to leverage our bispecific Fc technology and Fc engineering capabilities to develop and advance a pipeline of oncology candidates. We believe that bispecific technologies and candidates will play a growing role in the field of oncology, and that our Fc capabilities and technologies position us to be a leader in this field. We will also continue to leverage our other XmAb drug candidates and Fc technologies through partnerships and collaborations.

Since we began focusing our efforts in the bispecific field, we have advanced seven bispecific Fc candidates into development, expanded the functionality of the bispecific Fc technology, and entered into three collaborations with major pharmaceutical companies that will generate over $300 million in upfront payments. These collaborations provide us opportunities to co-develop drug candidates to leverage our partners' capabilities and also to potentially earn substantial future revenue from potential milestones, royalties, and profit-sharing rights.

XmAb Bispecific Fc Technology

A distinguishing feature of our XmAb technologies is our modular approach to Fc engineering. This provides us with flexibility to seek out new functionality in the bispecific Fc domain, allows us to design drug candidates with distinct and novel mechanisms-of-action, and also allows for different variable target combinations. This approach is illustrated through our expansion of our bispecific Fc platform and the novel candidates that we have designed.

CD3 bispecific candidates: the initial bispecific candidates that we designed were created with our engineered heterodimer Fc domain, or bispecific Fc domain, and are dual-antigen targeting molecules, containing an anti-tumor associated antigen binding domain and a second binding domain targeted to CD3, an activating receptor on T-cells. The goal of the "CD3 bispecific" is to recruit or activate T-cells against the antigen target. We are advancing three CD3 bispecific candidates through clinical development: XmAb14045, XmAb13676, and XmAb18087.

Tumor microenvironment (TME) activator candidates: we expanded the functionality of our bispecific Fc platform with a suite of tumor microenvironment activators that have been designed to promote tumor-selective T-cell activation by targeting multiple checkpoints or co-stimulating receptors. These TME activator candidates use our bispecific Fc domain and incorporate our Xtend technology for longer half-life in their design. We are advancing three TME activator candidates through clinical development: XmAb20717, XmAb22841, and XmAb23104.

Cytokine candidates: the most recent expansion of our bispecific Fc platform is our novel cytokine candidates. These cytokines are built on our bispecific Fc domain and have potency tuned to improve therapeutic index. These candidates also incorporate our Xtend technology for longer half-life. Our first cytokine candidate is XmAb24306, an IL-15/IL-15Ra cytokine complex built with our bispecific Fc domain. We believe that IL-15 cytokines, like XmAb24306, will be a promising candidate for oncology combination therapies.

We continue to invest in our bispecific Fc engineering efforts to identify additional novel technologies and drug candidates.

Other XmAb Fc Technologies

Our business, research, and clinical efforts are in developing and advancing our bispecific Fc technology and pipeline of drug candidates in oncology. We have also designed additional Fc technologies and XmAb drug candidates that we have partnered with other companies, and we will seek to continue to license and partner to maximize their potential. Our Fc domains and technologies include:

1. ***Immune Inhibitor Fc Domain*** – selective immune inhibition and rapid target clearance, targeting the receptor FcγRIIb;

2. ***Cytotoxic Fc Domain*** – increased cytotoxicity, targeting the receptors FcγRIIIa on natural killer (NK) cells and FcγRIIa on other immune system cells; and

3. ***Xtend™ Fc Domain*** – extended antibody half-life, targeting the receptor FcRn on endothelial cells.

XmAb Bispecific Fc Drug Candidates

There are currently seven bispecific candidates that have been engineered with our bispecific Fc domain through clinical or late preclinical development: four candidates are being evaluated in Phase 1 studies, two candidates have Investigational New Drug applications (INDs) that have been allowed by the FDA and for which we plan to initiate clinical trials in 2019, and one candidate for which we expect to submit an IND application to the FDA in 2019.

1. *XmAb14045* is a bispecific antibody that targets CD123, an antigen on acute myeloid leukemia (AML) cells and leukemic stem cells, and CD3, a cytotoxic T-cell binding domain. It is being developed in collaboration with our partner Novartis Institutes for BioMedical Research, Inc. (Novartis) and is being evaluated in a Phase 1 study. In September 2016, we dosed the first patient in an open-label, multiple-dose, dose escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb14045 in patients with relapsed or refractory AML and other CD123-expressing hematologic malignancies.

   We presented initial data from the study in December 2018 at the American Society of Hematology (ASH) Annual Meeting. The data presented indicated multiple complete remissions had been achieved with weekly dosing of XmAb14045 in this heavily-pretreated patient population. 66 patients with relapsed/refractory AML received XmAb14045. Patients were a median age of 61 years and were heavily pretreated, having a median of three prior therapies, and 30% (n=20) had a history of allogeneic stem cell transplantation. 86% of patients (n=57) were refractory to their last therapy, and 53% (n=35) were categorized as adverse risk at diagnosis by the European Leukemia Net system. A maximum tolerated dose (MTD) had not been reached. Cytokine release syndrome (CRS) was the most common toxicity occurring in 55% (n=36) of patients. 6% of patients (n=4) experienced Grade 3 or 4 CRS. CRS was more severe on the initial dose and was generally manageable with premedication. Additional adverse events consistent with CRS but not reported as such, including chills, fever, tachycardia, hypotension and hypertension within 24 hours of infusion, were reported in an additional 29% of patients (n=19). 28% of evaluable patients (5 of 18) achieved either complete remission (CR) or CR with incomplete hematologic recovery (CRi) at the two highest initial dose levels studied (1.3 and 2.3 mcg/kg weekly).

   In February 2019, we received notice from the FDA placing the XmAb14045 study on partial clinical hold due to safety issues of cytokine release syndrome and pulmonary toxicities. Under the partial hold, existing subjects on the trial may continue to receive dosing; however, no new subjects may be enrolled pending FDA review of a clinical hold response.

   The partial hold was initiated following recent safety reports Xencor submitted to the FDA on two patient deaths that were considered at least possibly related to XmAb14045. One patient experienced cytokine release syndrome (CRS) after their first dose, the treatment of which was complicated by the patient's decision to withdraw care. One subject developed acute pulmonary edema following several doses of XmAb14045. Items to be addressed in the response include analysis of CRS cases per dosing level, efficacy information, and strategies to mitigate the observed toxicities.

   We are coordinating a response to the partial hold by the FDA with our partner, Novartis, and plan to continue development of XmAb14045 pending resolution of the partial hold.

2. *XmAb13676* is a bispecific antibody that targets CD20, an antigen on B-cell tumors, and CD3 for the treatment of B-cell malignancies. In February 2017, we dosed the first patient in an open-label, Phase 1, multiple-dose, dose escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb13676 in patients with B-cell malignancies. This program was also partnered with Novartis as part of our Novartis collaboration. In December 2018, as part of a strategic pipeline reprioritization, Novartis notified us of its decision to return its rights to develop and commercialize XmAb13676, which is effective June 21, 2019. We intend to continue development of XmAb13676 as planned, and we expect to present initial data from the Phase 1 study in the second half of 2019.

3. *XmAb18087* is a bispecific antibody oncology candidate that targets somatostatin receptor 2, or SSTR2, a target on neuroendocrine tumors (NET) and gastrointestinal stromal tumors (GIST), and CD3, an activating receptor on T-cells. In February 2018, we dosed the first patient in an open-label, Phase 1, dose-escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb18087 in patients with NET or GIST. XmAb18087 is our first CD3 bispecific antibody to be evaluated in solid tumors. We expect to provide initial data from this study in the second half of 2019.

4. *XmAb20717* is a bispecific antibody that targets PD-1 and CTLA-4, two immune checkpoint receptors, to selectively activate the tumor microenvironment, and is being developed for broad oncology indications including patients with solid tumors. In July 2018, we dosed the first patient in an open-label Phase 1 dose-escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb20717 in patients with selected solid tumors. We expect to provide initial data from this study in the second half of 2019.

5. *XmAb22841* is a bispecific antibody that targets CTLA-4 and LAG-3, also an immune checkpoint receptor, and is being developed for multiple indications. We intend to advance XmAb22841 in combination with an anti-PD-1 drug to create a triple checkpoint blockade. The FDA approved our IND application for this drug candidate in November 2018. We plan to dose patients in an open-label, Phase 1, dose-escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb22841 in patients with selected solid tumors, and we plan to dose the first patient in the first half of 2019.

6. *XmAb23104* is a bispecific antibody that targets PD-1 and ICOS, an immune co-stimulatory receptor, and is being developed for multiple oncology indications. The FDA approved our IND application for this drug candidate in October 2018. We plan to dose patients in a an open-label, Phase 1, dose-escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb23104 in patients with selected solid tumors, and we plan to dose the first patient in the first half of 2019.

7. *XmAb24306* is an IL15/IL-15-receptor alpha complex fused to our bispecific Fc domain and incorporates our Xtend technology for extended half-life. We believe a broad combination development strategy will be critical to realize the potential of IL-15 cytokines. In February 2019, we entered into a research and license agreement with Genentech, Inc. and F. Hoffmann-LaRoche Ltd. (collectively Genentech), to develop and commercialize novel IL-15 cytokine therapeutics, whereby the companies will co-develop XmAb24306 and other potential IL-15 programs. XmAb24306 is conducting IND-enabling studies and Xencor will support Genentech's efforts to submit an IND for this candidate in the second half of 2019.

XmAb Immune Inhibitor Fc Candidates

We have developed two clinical candidates using our Immune Inhibitor Fc Domain:

XmAb5871 uses our XmAb Immune Inhibitor Fc Domain and targets CD19 with its variable domain, which is designed to inhibit the function of B cells, an important component of the immune system. We believe that XmAb5871 has the potential to address a key unmet need in autoimmune diseases due to its combination of potent reversible B-cell inhibition without B-cell depletion, enabling the immune system to resume natural function once treatment is no longer needed. We have completed Phase 2 clinical trials for XmAb5871 in three autoimmune disease areas: Systemic Lupus Erythematosus (SLE), IgG4-Related Disease (IgG4-RD), and Rheumatoid Arthritis (RA).

SLE: in order to assess the effect of XmAb5871 on SLE disease activity in a shorter timeframe and enrolling fewer patients than standard SLE trials, we completed a Phase 2 study with a novel design that sought to reduce the confounding effects of background immunosuppressive medication.

The randomized, double-blind, placebo-controlled, Phase 2 study enrolled 104 patients with moderate to severe, non-organ threatening SLE across 20 sites in the United States. Patients discontinued background immunosuppressive medication and received a short course of intramuscular steroids to quiet SLE disease activity. Patient lupus activity was evaluated using the SLE Disease Activity Index (SLEDAI) and the British Isles Lupus Activity Group (BILAG) scoring. Patients achieving the required disease activity improvement (SLEDAI decrease ≥4 points, or ≥1 grade decrease in ≥1 BILAG A or B score) were randomized 1:1 to receive XmAb5871 (n = 52) or placebo (n = 52) every 14 days for up to 16 doses.

In October 2018, we presented topline data from the study at the American College of Rheumatology (ACR) annual meeting. The primary endpoint of the study was the proportion of patients with no loss of improvement (LOI) (i.e., maintenance of improvement) in the efficacy-evaluable population, defined as those who completed Day 225, had LOI, or discontinued due to a drug-related adverse event. LOI was defined as a SLEDAI increase ≥4 points or a new BILAG A or B score and physician intent to treat with rescue medication. Improvement was maintained at Day 225 by 42% of patients (21/50) in the XmAb5871-treated arm, compared to 28.6% of patients (12/42) in the placebo-treated arm, which did not meet the primary endpoint for statistical significance (p = 0.18). The efficacy-evaluable population excludes 10/52 (19%) placebo patients and 2/52 (4%) XmAb5871-treated patients who withdrew from the study for reasons other than LOI or adverse event. These exclusions resulted in higher placebo response rates compared to the intent-to-treat (ITT) population. In the ITT population, improvement was maintained by 40.4% of patients (21/52) in the XmAb5871-treated arm, compared to 23.1% of patients (12/52) in the placebo-treated arm which results in an improved statistical significance (p = 0.06).

Secondary endpoints included evaluations of time to LOI and safety and tolerability of XmAb5871. Patients in the efficacy-evaluable population treated with XmAb5871 experienced a statistically significant longer time to LOI (median = 230 days, hazard ratio = 0.53, p = 0.025), compared to placebo-treated patients (median = 131 days), a 76% improvement in median time to LOI and a 47% reduction in risk of LOI. XmAb5871 was well tolerated, and its safety profile was consistent with previous trials.

IgG4-RD: In November 2017, we presented final data from a Phase 2 study of XmAb5871 in patients with IgG4-RD at the ACR annual meeting for the 15 patients that had been enrolled and received one or more doses of 5 mg/kg of XmAb5871. The data indicated that XmAb5871 was well tolerated by patients receiving drug in the study. Three patients had minor, transient gastrointestinal side-effects during the first infusion; all completed the study. Two serious adverse events (SAEs) unrelated to XmAb5871 were observed in one patient, pneumonia and recurrence of pneumonia due to non-compliance with antibiotic therapy (patient completed study). All other XmAb5871-related adverse events (AEs) were graded as mild or moderate, and no treatment related AE was reported in more than two patients. Three patients discontinued the study early.

12 of the 15 patients (80%) completed the trial and all 12 achieved the primary endpoint of at least a 2-point reduction in IgG4-RD Responder Index (RI) on day 169. None of the 12 required corticosteroids (CS) after month two. Eight patients achieved remission (IgG4-RD RI of zero and no CS after two months) and the other four patients achieved an IgG4-RD Responder Index score of <=4 at Day 169. 14 of 15 patients (93%) achieved a decrease of ≥ 5 in the IgG4-RD RI.

In May 2017, we received Orphan Drug designation from the FDA for XmAb5871 for the treatment of IgG4-RD. In January 2018, we received Orphan Medicinal Product designation from the European Commission.

RA: In June 2015, we announced results from a Phase 1b/2a placebo-controlled trial of XmAb5871 in patients with rheumatoid arthritis (RA). The results indicated that XmAb5871 was generally well tolerated. Although the trial was not designed to observe a statistically significant difference in efficacy results between XmAb5871 and placebo treated patients, sufficient efficacy trends were seen to warrant continued clinical development of XmAb5871 in autoimmune indications. A numerically increased proportion of patients with improvements across several measurements of disease activity were observed in the XmAb5871 treated groups compared to placebo.

Subcutaneous bioequivalence: In October 2016, we completed a Phase 1 bioequivalence trial for XmAb5871 using a subcutaneous (SC) formulation. XmAb5871 had a favorable safety profile and was well-tolerated. Pharmacokinetics and bioavailability data from the trial support an every-other-week dosing schedule, and we expect that further clinical studies will be conducted with XmAb5871 in a SC formulation.

We believe that the clinical trials that we have conducted with XmAb5871 show the potential of this molecule in treating B-cell mediated autoimmune indications. We are looking to continue developing XmAb5871 in additional late-stage clinical trials with a partner that has the resources and infrastructure to maximize the potential of this compound.

XmAb7195 uses our Immune Inhibitor Fc Domain and targets IgE with its variable domain, and this drug candidate is being developed for the treatment of severe asthma and allergic diseases. XmAb7195 uses three distinct mechanisms of action to reduce blood serum levels of IgE, which mediates allergic responses and allergic disease.

In January 2015, we reported top-line interim data from Part 1 of the Phase 1a trial of XmAb7195, in which healthy volunteers received a single intravenous (IV) dose. In 2015, we continued the Phase 1a trial of XmAb7195, treating subjects with high baseline IgE levels, and in June 2015, we announced an expansion of the trial, adding cohorts of subjects that receive two IV doses of XmAb7195. We announced complete data from these studies in May 2016.

In September 2016, we initiated a multi-dose Phase 1b trial for XmAb7195 with a SC formulation. The first part of this study was an open-label bioequivalence trial evaluating four once-weekly doses of SC XmAb7195 ranging from 0.1 to 1.0 mg/kg in cohorts of six healthy volunteers. The second part of the trial, which we began in October 2016, was a randomized, double-blinded, placebo-controlled multiple-ascending dose study in atopic patients of SC XmAb7195 at doses of 1.5 and 2.0 mg/kg. Half-life of SC XmAb7195 ranged from 3.6 - 4.9 days, comparable to the previously reported half-life of 3.9 days of intravenously administered XmAb7195. Bioavailability after the fourth dose exceeded 50%, which is typical for monoclonal antibodies, and drug concentration levels increased with successive doses.

SC administration of XmAb7195 was well tolerated. No severe AEs or serious treatment-emergent AEs occurred during the study. The most frequently occurring treatment-emergent AEs were injection-site related, including erythema, pruritus and/or urticaria, and most were mild. No diffuse urticaria or other systemic hypersensitivity reactions were reported. No apparent consistent effect of SC XmAb7195 on platelet count was seen when dosed at 0.1 - 1.0 mg/kg weekly for four weeks. At 1.5 - 2.0 mg/kg weekly for four weeks mild platelet count reductions were observed. Four of 15 patients in the 2.0 mg/kg group had at least one platelet count of less than 150 x 103/μL at some time point. The lowest count observed was 126 x 103/μL, and a recovery to within normal range occurred within a few days of the doses.

In 23 of 27 (85%) subjects with detectable baseline free IgE (≥ 9.59 ng/mL) (median 76.2 ng/mL, range: 17.4-846 ng/mL), treated with four weekly SC XmAb7195 doses of 0.3 to 2.0 mg/kg, free IgE was suppressed to below the level of quantification (BLQ) at some time point during the treatment period. In 20 of the 27 (74%) subjects, once suppression of free IgE to BLQ was observed, BLQ values were maintained for the remainder of the treatment period and for at least seven days following the last dose. Similarly, in the subgroup of atopic subjects, 14 of 14 (100%) subjects with detectable baseline free IgE (median 150.0 ng/mL, range: 46.4-846 ng/mL) treated with four weekly SC XmAb7195 doses of 1.5 to 2.0 mg/kg, free IgE was suppressed to BLQ at some time point during the treatment period. In 12 (86%) atopic subjects, once suppression of free IgE to BLQ was observed, BLQ values were maintained for the remainder of the treatment period and for at least seven days following the last dose.

In 28 of 31 (90%) subjects with detectable baseline total IgE (≥ 2.0 IU/mL) (median 68.1 IU/mL, range: 7.13-736 IU/mL) treated with four weekly SC XmAb7195 doses of 0.3 to 2.0 mg/kg, total IgE was suppressed to BLQ at some time point during the treatment period. In the other three subjects, total IgE levels were reduced to < 1% of baseline values. In 23 of 28 (82%) subjects, once suppression of total IgE to BLQ was observed, BLQ values were maintained for the remainder of the treatment period and for at least seven days following the last dose. Similarly, in the subgroup of atopic subjects, 12 of 14 (86%) subjects with detectable baseline total IgE (median 153.5 IU/mL, range: 38.9-736.0 IU/mL) treated with four weekly SC XmAb7195 doses of 1.5 to 2.0 mg/kg, total IgE was suppressed to BLQ at some time point during the treatment period. In the other two atopic subjects, total IgE levels were reduced to < 1% of baseline values. In eight of 12 (67%) subjects once suppression of free IgE to BLQ was observed, BLQ values were maintained for the remainder of the treatment period and for at least seven days following the last dose. In three of the other four atopic subjects that had suppression of total IgE level to BLQ, subsequent total IgE levels through seven days after the fourth dose were < 2% of baseline values.

These results support SC delivery for future development, and pharmacokinetic/pharmacodynamic modeling is proceeding to determine the optimal dosing schedule. Xencor is seeking a partner for continued development of XmAb7195.

Collaborations

An important part of our business strategy is to leverage the value of our bispecific Fc technologies and drug candidates with partnerships and collaborations. Our goal in such partnerships is to a retain a major economic interest in drug candidates that we develop or, are developed with our bispecific technologies, in the form of retention of U.S. commercial rights, profit-sharing interest, co-development opportunities, upfront payments, milestones, and potential royalties on approved drug candidates. We seek to partner with companies that can provide infrastructure for late stage development, have a track record of developing and commercializing oncology drug candidates, or have a pipeline of development and commercial compounds for potential combination with our bispecific compounds. The plug-and-play nature of our technologies allows us to license access to our bispecific Fc platform to partners with limited effort or resources on our part. We are co-developing two of our current drug candidates with partners, another partner has advanced into development two candidates that have been designed using our bispecific Fc technology, and there are others in preclinical development.

Our bispecific collaborations include:

Genentech

In February 2019, we entered into a research and license agreement with Genentech (the Genentech Agreement) to develop and commercialize novel IL-15 cytokine therapeutics that use our bispecific Fc technology, including XmAb24306, and other Collaboration Products, in the areas of cancer immunotherapy. We will jointly collaborate on the worldwide development of XmAb24306 and other IL-15 cytokine therapeutics, each a Collaboration Product, with Genentech maintaining worldwide commercialization rights, subject to us having a co-promotion option in the U.S. We retained the right to perform clinical studies of Collaboration Products in combination with other therapeutic agents, subject to certain requirements. Genentech received a worldwide exclusive license to XmAb24306 and other Collaboration Products. The key aspects of the agreement include:

- We will receive an upfront payment of $120 million and are eligible to receive up to $160 million in clinical milestone payments for each Collaboration Product that advances to Phase 3 clinical trials,
- We are eligible to receive a 45% share of net profits from sales of XmAb24306 and Collaboration Products, while also sharing in the net losses at the same percentage rate,
- We will jointly share in 45% of development and commercialization costs, while Genentech will pay for commercial launch costs, and

- We will conduct a two-year joint research program with Genentech to discover additional programs around the IL-15 cytokine technology and will receive a $20 million milestone payment upon the initiation of each Phase 1 clinical trial for each new Collaboration Product developed under a research plan.

The Genentech Agreement is subject to customary closing conditions, including clearance under the Hart-Scott-Rodino Antitrust Improvements Act, and closing is expected to occur in the first quarter of 2019.

We believe that the Genentech collaboration maximizes the potential value of our XmAb24306 candidate and other potential Collaboration Products.

Novartis

In June 2016, we entered into a Collaboration and License Agreement (the Novartis Agreement) with Novartis to develop and commercialize bispecific and other Fc engineered antibody drug candidates. Key aspects to the agreement include:

- We received a $150 million upfront payment and are eligible to receive up to $2.1 billion in milestone payments,

- We granted Novartis certain exclusive rights to research, develop and commercialize XmAb14045 and XmAb13676, our two lead bispecific clinical candidates. In December 2018, Novartis returned all their rights to XmAb13676 to us,

- We are eligible to receive up to $325 million in milestone payments in connection with the development of XmAb14045, including $90 million in development milestones, $110 million in regulatory milestones, and $125 million in sales milestones. We are also eligible to receive low double-digit royalties on sales of approved products in all territories outside the United States (ex-U.S. rights). We retained the commercialization rights to all XmAb14045 candidates in the U.S.,

- We and Novartis are co-developing XmAb14045 worldwide and sharing development costs equally. Novartis is also obligated to fund its share of development costs for XmAb13676 through June 2020,

- We will also apply our bispecific technology to up to four target pair antibodies selected by Novartis, if such target pairs are available for exclusive license to Novartis and are not subject to a Xencor internal program. Novartis will assume full responsibility for development and commercialization of each product candidate under each of these global discovery programs. Assuming successful development and commercialization of each global discovery program compound, we could receive up to $250.0 million in milestone payments for each global discovery program which includes $50.0 million in development milestones, $100.0 million in regulatory milestones, and $100.0 million in sales milestones. If commercialized, we are eligible to receive mid-single digit royalties on global net sales of approved products,

- We have the right to participate in the development and commercialization of one of the global discovery programs prior to submission of an IND for such program. If we elect to participate in development, we will assume responsibility for 25% of the worldwide development costs for the program and 50% of commercialization costs, and will receive 50% of the U.S. profits on net sales of the product,

- We completed delivery of one bispecific antibody candidate for a global discovery program in 2017 and one bispecific antibody candidate for a global discovery program in 2018 and

- We also granted Novartis a non-exclusive research license to certain of our Fc technologies, specifically Cytotoxic, Xtend, and Immune Inhibitor Fc domains to research, develop, commercialize and manufacture antibodies against up to 10 targets selected by Novartis, if such targets are available for non-exclusive license and not subject to a Xencor internal program. For each program that is advanced into development, we are eligible to receive up to $76 million in milestone payments and also low single-digit royalties on global net sales of approved products.

Amgen

In September 2015, we entered into a research and license agreement with Amgen, Inc. (Amgen) (the Amgen Agreement) to develop and commercialize products using our bispecific technology. Under the Amgen Agreement, we licensed the rights to our internally developed, preclinical CD38 x CD3 bispecific antibody candidate to Amgen and also agreed to apply our bispecific technology to five previously identified Amgen antibodies. We have received $55.5 million in upfront payments and milestone payments, and are eligible to receive up to an additional $600 million in milestone payments and royalties on approved products. Amgen is responsible for all development of the bispecific candidates under the Amgen Agreement. Current programs in development from the Amgen collaboration include:

- AMG424, a bispecific antibody that targets CD38 and CD3 and is in clinical development for multiple myeloma. The program is currently in a Phase 1 clinical study, and we are eligible to receive up to $345 million in milestones payments and royalties from high-single to low-double digit percentages on the sale of approved products from this program, and

- AMG509, a bispecific antibody that is being developed for prostate cancer and is currently in preclinical development. We are eligible to receive up to $260 million in milestone payments and tiered royalties in the mid-to high-single digit percentages on the sale of approved products.

XmAb Licensing and Technology Partnerships

There are currently four partnerships with XmAb candidates in development.

Alexion

In 2013 we licensed Alexion Pharmaceuticals, Inc. (Alexion) the right to access our Xtend Fc domain and Alexion incorporated it in developing Ultomiris, an improved version of Alexion's commercialized Soliris product. The Xtend technology has increased the half-life of Ultomiris by over three fold compared to Soliris and extended the dosing schedule to bimonthly for Ultomiris compared to biweekly for Soliris.

In 2018, Alexion submitted marketing authorization applications for Ultomiris to the regulatory authorities in the U.S., Europe and Japan; for the treatment of adult patients with paroxysmal nocturnal hemoglobinuria (PNH), and in December 2018, Alexion received FDA approval. During 2018, we received $20.0 million in milestone payments from this partnership and to date we have received a cumulative total of $37.5 million in milestone and upfront payments. We are eligible to receive up to an additional $38.0 million in regulatory and sales milestones, and royalties on the sale of approved products in the low single-digit percent range.

MorphoSys

In June 2011 we entered into a collaboration and license agreement (the MorphoSys Agreement) with MorphoSys AG (MorphoSys) to license the worldwide rights to XmAb5574 (now known as MOR208). MOR208 is an antibody drug candidate originally developed by us and it incorporates our XmAb cytotoxic Fc domain.

MorphoSys is currently conducting Phase 3 clinical trials of MOR208 in patients with non-Hodgkin lymphomas (NHL) and a Phase 2 clinical trial in chronic lymphocytic leukemia (CLL). MorphoSys has indicated that it has received Breakthrough Therapy designation from the FDA for targeting diffuse large B-cell lymphoma (DLBCL) in combination with lenalidomide. MorphoSys has indicated it will be submitting MOR208 for regulatory approval in 2019.

We have received a total of $28.5 million in upfront and milestone payments under the MorphoSys Agreement and we are eligible to receive additional milestones for development of the MorphoSys compounds in oncology and additional milestones for development of compounds in different indications. Total additional milestones for MorphoSys compounds currently in development total $111 million which include: $6 million in development milestones, $55 million in regulatory milestones, and $50 million of aggregate milestone payments for the achievement of certain product sales goals. If licensed products are commercialized, we are entitled to receive tiered royalties in the high single-digit to low-double digit percent range.

The term of this agreement will continue until all of MorphoSys' royalty payment obligations have expired unless terminated earlier.

CSL

In February 2009, we entered into a research license and commercialization agreement (CSL Agreement) with CSL Limited (CSL) in which we provided CSL with a research license to our cytotoxic Fc technology and options to non-exclusive commercial licenses. CSL elected to exercise one commercial license for a compound, CSL362.

In 2013 CSL sublicensed CSL362 to Janssen Biotech Inc. (Janssen Biotech). In August 2015, CSL, through its sublicensee, Janssen Biotech, initiated a Phase 2 clinical trial for CSL362. In March 2017, Janssen Biotech initiated a Phase 3 trial for CSL362 and we received a milestone payment of $3.5 million. In July 2017, Janssen discontinued the Phase 3 trial for CSL362 and returned the compound to CSL.

Boehringer Ingelheim

In February 2007, we entered into a research and option agreement (BI Agreement) with Boehringer Ingelheim International GmbH (BI). Under the terms of the BI Agreement we provided a research license to our XmAb cytotoxic technology and options to non-commercial licenses. BI elected to take options to two licenses and there is currently one compound in a Phase 1 clinical trial.

NIH

In January 2016, we announced that the National Institutes of Health (NIH) initiated a Phase 1 clinical trial of VRC01LS, a therapeutic antibody for the treatment of human immunodeficiency virus (HIV) that uses our Xtend technology to enhance antibody half-life. VRC01LS is a humanized monoclonal antibody targeted to the CD4 binding site of HIV-1. VRC01LS is a modification of the VRC01 monoclonal antibody, which demonstrated a suppression of HIV viral load in a Phase 1 trial conducted by NIH. NIH has not entered into an agreement with us for this technology.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on developing and commercializing engineered monoclonal antibodies and other proteins in oncology to treat patients with severe and life-threatening diseases with unmet medical needs. Key elements of our strategy are to:

1. ***Advance the clinical development of our bispecific Fc domain development candidates.*** Our XmAb bispecific technology allows us the opportunity to rapidly develop multiple antibody drug candidates with dual targeting mechanisms for the treatment of various cancers including solid tumors. We have initiated Phase 1 trials for four bispecific oncology candidates, XmAb14045, XmAb13676, XmAb18087, and XmAb20717, and we will be initiating Phase 1 clinical trials for two candidates, XmAb23014 and XmAb22841, in the first half of 2019. We are in preclinical development for our first bispecific Fc domain cytokine candidate, XmAb24306, and plan to submit an IND for this candidate in the second half of 2019.

2. ***Build a large and diversified portfolio of product candidates.*** We aim to create new XmAb-engineered antibody product candidates that exploit the novel properties of our XmAb technology platform for preclinical and clinical development by us or, if appropriate, license certain candidates to leading pharmaceutical and biotechnology companies.

3. ***Continue to monetize and expand the use of our XmAb technology platform.*** We continuously seek opportunities to maximize the value of our XmAb technologies and will selectively license access to certain of the technologies to leading pharmaceutical and biotechnology companies for use in their proprietary programs. In 2019, we announced a collaboration agreement with Genentech and we are eligible to receive an upfront payment of $120 million, milestone payments of $160 million per program developed under the agreement, and a 45% share of net profits on global net sales of products. In 2016, we received $150 million upfront in connection with the Novartis Agreement and are eligible to receive up to $2.41 billion in potential milestone payments. In 2018, we received $20 million in milestone payments from our partner Alexion.

4. ***Broaden the functionality of our XmAb technology platform.*** We are conducting further research into the function and application of antibody Fc domains in order to expand the scope of our XmAb technology platform. Our bispecific technology, which uses our heterodimeric Fc domain enabling molecules with dual target binding, is an example of the expanding functionality of our XmAb technology platform. We expanded the functionality of the bispecific platform with the development of a series of tumor microenvironment (TME) activator drug candidates and the first bispecific Fc domain cytokine candidate, XmAb24306. Both the TME activator and cytokine candidates incorporate our Xtend Fc technology for longer duration of action.

5. ***Continue to expand our patent portfolio protecting our XmAb technology platform.*** We seek to expand and protect our development programs and product candidates by filing and prosecuting patents in the United States and other countries.

Our Research and Development Pipeline

We have used our XmAb Fc platforms and antibody optimization capabilities to produce a growing pipeline of drug candidates in clinical and preclinical development. These include multiple oncology candidates using our bispecific Fc domain, including CD3 candidates, TME activator checkpoint, and cytokine candidates, and drug candidates using our immune inhibitor Fc domain. We will continue to progress these candidates as additional options for clinical development by us or as out-licensing opportunities. We also from time to time in-license antibody technologies and compounds from other companies which we believe may allow us to create potential product candidates by incorporating our XmAb technology. These licenses may require us to pay up-front fees, development and commercial milestone payments, and if commercial products are approved, royalties on net sales.

Market Opportunity

Our drug candidates that use the XmAb bispecific Fc domain, including XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306: We are pursuing the development of our bispecific Fc candidates for applications in oncology, whereby the immune system is modulated to treat cancer. Cancer is a broad group of diseases in which cells divide and grow in an uncontrolled fashion, forming malignancies that can invade other parts of the body, and it is the second leading cause of death in the United States (U.S.). The American Cancer Society estimates that in 2018 there were approximately 1.7 million new cases of cancer and approximately 609,000 deaths from cancer. The National Institutes of Health (NIH) estimates that based on growth and aging of the U.S. population, medical expenditures for cancer in the year 2020 are projected to reach at least $158 billion (in 2010 dollars).

XmAb5871: We have advanced development of XmAb5871 through Phase 2 trials for SLE, IgG4-RD, and other autoimmune diseases. The unmet need in SLE remains high for the estimated 240,000 Americans with a lupus diagnosis. SLE is a serious and potentially fatal disease that primarily affects women. It is an autoimmune disease that affects many parts of the body, including the joints, skin, kidneys, heart, lungs, blood vessels and brain. Patients are often subject to prolonged use of systemic corticosteroids and potent immunosuppressive agents with significant short and long term side effects. Current biologic treatments are limited by their modest efficacy or safety risks. Because B cells play a significant role in SLE pathogenesis, we believe that XmAb5871is a potential treatment. IgG4-RD is a fibro-inflammatory autoimmune disorder that we estimate impacts approximately 40,000 patients in the United States. IgG4-RD affects multiple organ systems and we believe is characterized by the distinct pathologies in diseased organs, frequently including the presence of IgG4-positive plasma blast cells. There are currently no approved therapies for IgG4-RD and glucocorticoids (hormone steroids) are the current standard of care treatment.

XmAb7195: The potential indication for which we are currently pursuing XmAb7195 development is allergic asthma. According to the Centers for Disease Control and Prevention, asthma affects approximately one in 12 Americans. More than half of asthma sufferers have at least one attack each year and thousands of people die from asthma attacks each year. Disease severities cover a wide range, and the treatment landscape is multi-tiered for asthma patients. Patients with mild and moderate asthma are generally well controlled with inhaled corticosteroids and long-acting beta agonists. However, a small percentage of the estimated 25 million asthma patients in the U.S. have severe asthma and are refractory to high-dose combination therapy. This severe population is commonly treated with oral corticosteroids, which are associated with many undesirable side effects and are often insufficient to control the disease.

Intellectual Property

The foundation for our XmAb technology and our product candidates and partnering is the generation and protection of intellectual property for novel antibody therapeutics. We combine proprietary computational methods for amino acid sequence design with laboratory generation and testing of new antibody compositions. Our design and engineering team prospectively assesses, with patent counsel, the competitive landscape with the goal of building broad patent positions and avoiding third-party intellectual property.

As a pioneer in Fc domain engineering, we systematically scanned the structure of the Fc domain to discover Fc variants. We have filed patent applications relating to thousands of specific Fc domain variants with experimental data on specific improvements of immune function, pharmacokinetics, structural stability, and novel structural constructs. We have filed additional patent applications derived from these applications as we discover new properties of the Fc variants and as new business opportunities arise. We continually seek to expand the intellectual property coverage of our technology and candidates, and invest in discovering new Fc domain technologies and antibody product candidates.

Our patent estate, on a worldwide basis, includes over 750 issued patents and pending patent applications which we own or for which we have a fully-paid exclusive license, with claims directed to XmAb Fc domains, all of our clinical and preclinical stage antibodies and our computational protein design methods and platforms. We also have a large number of issued patents and pending patent applications with claims directed specifically to our XmAb technology and candidates.

The patent expiration in the U.S. and major foreign countries for our key technologies and drug candidates is:

Technology	Patent Expiry
Cytotoxic	2025 U.S.; 2023 Ex-U.S.
Immune Inhibitor	2025 U.S.; 2023 Ex-U.S.
Xtend	2028 U.S. and Ex-U.S.
Bispecific	2033 U.S. and Ex-U.S.

Drug candidate	Patent Expiry
MOR208	2028 U.S. and Ex-U.S.
XmAb5871	2028 U.S. and Ex-U.S.
XmAb7195	2031 U.S. and Ex-U.S.
XmAb14045 and XmAb13676	2034 U.S. and Ex-U.S.
XmAb18087	2037 U.S. and Ex-U.S.
XmAb20717, XmAb22841, and XmAb23104	2037-2038 U.S. and Ex-U.S.
XmAb24306	2037 U.S. and Ex-U.S.

In addition to patent protection, we rely on trade secret protection and know-how to expand our proprietary position around our technology and other discoveries and inventions that we consider important to our business. We seek to protect this intellectual property in part by entering into confidentiality agreements with our employees, consultants, scientific advisors, clinical investigators, and other contractors and also by requiring our employees, commercial contractors, and certain consultants and investigators, to enter into invention assignment agreements that grant us ownership of certain discoveries or inventions made by them.

Further, we seek trademark protection in the United States and in certain other jurisdictions where available and when we deem appropriate. We have obtained registrations for the Xencor trademark, as well as certain other trademarks, which we use in connection with our pharmaceutical research and development services and our clinical-stage products, including XmAb, PDA and Protein Design Automation. We currently have registrations for Xencor and PDA in the United States, Australia, Canada, the European Community, and Japan, for Protein Design Automation in the United States, Australia, Canada and the European Community, and for XmAb in the United States, Australia, and the European Community.

Manufacturing

We are able to internally manufacture the quantities of our product candidates required for relatively short preclinical animal studies. We believe that this allows us to accelerate the drug development process by not having to rely on third parties for all of our manufacturing needs. We have adopted a manufacturing strategy of contracting with third parties in accordance with current good manufacturing practices (cGMPs) for the manufacture of drug substance and product, including our pipeline of bispecific development candidates and also our XmAb5871 and XmAb7195 development candidates. We have used third party manufacturers for all our bispecific Fc candidates which include: XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306. Additional contract manufacturers are used to fill, label, package and distribute investigational drug products. This allows us to maintain a more flexible infrastructure while focusing our expertise on developing our products. XmAb5871 and XmAb7195 are produced by mammalian cell culture of a Chinese hamster ovary cell line that expresses the antibody, followed by multiple purification and filtration steps typical of those used for monoclonal antibodies. We do not have any long-term manufacturing agreements in place and will ultimately depend on contract manufacturers for the manufacture of our products for commercial sale, as well as for process development. We have successfully completed clinical trials with subcutaneous formulations for both XmAb5871 and XmAb7195 which have been manufactured with third party contract manufacturers.

KBI Biopharma, Inc.

In July 2014, we entered into a master services agreement (KBI Agreement) with KBI Biopharma, Inc. (KBI). We have engaged KBI under the KBI Agreement for process development, clinical scale-up, analytical method development, formulation development, and other services related to drug substance and drug product for our bispecific development candidates: XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 in accordance with cGMP regulations. For each bispecific program, we have entered into a separate agreement with the terms and conditions of services and payment. The KBI Agreement is for a three-year term but is automatically extended on an annual basis until the services are completed. The KBI Agreement may be terminated by either party for a breach that is not remedied within 30 days after notice or 60 days after notice of the existence of an incurable scientific or technical issue that renders KBI unable to render services under the KBI Agreement, by after 60 day notice, or in the event of a bankruptcy of a party. For termination other than a material breach by KBI, we must pay for all services conducted prior to the termination and to wind down the activities.

Cell Line Agreements with Selexis

In December 2015, we entered into a master service agreement (Selexis Agreement) with Selexis SA (Selexis) for the manufacture of Selexis cell lines. Under the terms of the Selexis Agreement, Selexis will manufacture cell lines for the antibody candidates provided by us and upon completion of the cell lines, we have the option to take an unrestricted commercial license to the cell line. The terms of each commercial license require us to make payments upon achievement of certain development and regulatory milestones and we will also pay royalties based on a percentage of net sales for products that are derived from or utilize the Selexis cell line. The royalty percentage is less than 1%.

Selexis has manufactured cell lines for all our bispecific Fc drug candidates, and we currently have commercial licenses to the Selexis cell line for the following bispecific Fc candidates: XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306.

License Agreements with BIO-TECHNE

In February 2015, we entered into a license agreement with BIO-TECHNE Corporation (BIO-TECHNE) for a non-exclusive license to certain antibody technology including monoclonal antibodies which recognize human somatostatin reception 2. The variable domain of this antibody is incorporated in our XmAb18087 drug candidate.

Under the terms of this agreement, we made an upfront payment and are obligated to make payments upon the achievement of certain development and regulatory milestones, and royalties based on a percentage of net sales from products that are derived from the XmAb18087 program. The royalty percentage is less than 1%.

We entered into a second agreement with BIO-TECHNE effective February 2018 for a non-exclusive license to certain recombinant monoclonal antibody reactive with human programmed death protein, PD-1 antibody. We expect to use this protein in certain of our oncology drug candidates.

Under the terms of this agreement, we made an upfront payment and are obligated to make payments upon the achievement of certain development, regulatory and sales milestones, and royalties based on a percentage of net sales from products that are derived from the PD-1 antibody. The royalty percent is 1%.

Development and Manufacturing and Cell Line Sale Agreements with Catalent

In September 2005, we entered into a development and manufacturing services agreement (the Catalent Manufacturing Agreement) with Catalent Pharma Solutions LLC (Catalent). Under the terms of the agreement, Catalent will, from time to time, provide development and manufacturing services for us.

We have also entered into separate cell line sale agreements (Cell Line Agreements) with Catalent for the XmAb5871 and XmAb7195 cell lines. Catalent manufactured the cell lines for the XmAb5871 and XmAb7195 programs using their proprietary GPEx® technology. Under the Catalent Manufacturing Agreement, we have an unrestricted license to the GPEx cell lines provided that Catalent is manufacturing drug substance material from the cell line. The Cell Line Agreements allow us to transfer the manufacturing processes for either XmAb5871 or XmAb7195 to a third party manufacturer. In 2018, we transferred the manufacturing process for XmAb5871 from Catalent to a third party manufacturer.

Upon transfer of the XmAb5817 or XmAb7195 cell line to a third party manufacturer, we will be required to make payments to Catalent based upon the achievement of certain development and regulatory milestones and will also pay royalties based on a percentage of net sales for products that are derived from or utilize the GPEx cell line. The royalty percentages under each Cell Line Agreement are less than 1.0%. In 2017, we transferred the cell line for XmAb5871 to a third party manufacturer. We have not made any payments under the Cell Line Agreement to date.

We have the unilateral right to terminate the Catalent Manufacturing Agreement upon 30 days written notice to Catalent. Absent early termination, the agreement will remain in effect. If we terminate the agreement without cause or if Catalent terminates the agreement for our material breach of the agreement, our ownership rights in the cell line will automatically terminate, and title will revert to Catalent.

Master Bioprocessing Services Agreement with FUJIFILM Diosynth Biotechnologies

In June 2017, we entered into a bioprocessing services agreement (FUJI Agreement) with FUJIFILM Diosynth Biotechnologies U.S.A. (FUJI). We have engaged FUJI under the FUJI Agreement for manufacturing and development services related to drug substance for our XmAb5871 program in accordance with cGMP regulations. The FUJI Agreement may be terminated by either party for a breach or default that is not remedied within 45 days or for an additional 45 days if such cure has commenced by the responsible party but it is unable to cure it within the original 45-day notice period. If such cure is not completed within the 90-day period, we have the right to terminate the FUJI Agreement. We have the unilateral right to terminate the Agreement upon 30 days written notice to FUJI.

Competition

We compete in an industry that is characterized by rapidly advancing technologies, intense competition, and a strong emphasis on proprietary products. Our competitors include pharmaceutical companies, biotechnology companies, academic institutions, and other research organizations. We compete with these parties for promising targets for antibody-based therapeutics, new technology for optimizing antibodies, and in recruiting highly qualified personnel. Many competitors and potential competitors have substantially greater scientific, research, and product development capabilities as well as greater financial, marketing and sales, and human resources than we do. In addition, many specialized biotechnology firms have formed collaborations with large, established companies to support the research, development, and commercialization of products that may be competitive with ours. Accordingly, our competitors may be more successful than we may be in developing, commercializing, and achieving widespread market acceptance. In addition, our competitors' products may be more effective or more effectively marketed and sold than any treatment we or our development partners may commercialize, and may render our product candidates obsolete or noncompetitive before we can recover the expenses related to developing and commercializing any of our product candidates.

Competition in the field of cancer drug development is intense, with more than 250 compounds in clinical trials by large multinational pharmaceutical companies. We are aware of companies with competing bispecific technologies including Amgen, MacroGenics, Inc. (MacroGenics), Merus, Inc., Regeneron Pharmaceuticals, Inc., F. Hoffmann-LaRoche Ltd. (Roche), Genentech, and Zymeworks, Inc. Several companies have competing bispecific molecules as both Roche and Regeneron have CD20 x CD 3 candidates in Phase 1 development and MacroGenics has a CD123 x CD3 bispecific antibody in clinical development . The field of oncology has multiple large pharmaceutical companies with competing oncology programs including Bristol Myers-Squib, Merck & Co., and Roche. In addition, we are aware of a number of other companies with development stage programs that may compete with the drug candidates we and our licensees are developing in the future. We anticipate that we will face intense and increasing competition as new treatments enter the market and advanced technologies become available.

Regulatory Overview

Our business and operations are subject to a variety of U.S. federal, state and local and foreign supranational, national, provincial and municipal laws, regulations and trade practices. The FDA and comparable regulatory authorities in state and local jurisdictions and in other countries impose substantial and burdensome requirements upon companies involved in the clinical development, manufacture, marketing, and distribution of drugs and biologics. These agencies and other federal, state and local entities regulate research and development activities and the testing, manufacture, quality control, safety, effectiveness, labeling, storage, recordkeeping, approval, advertising and promotion, and export and import of our product candidates.

U.S. Government Regulation

U.S. Drug Development Process

In the United States, the FDA regulates drugs and biologic products under the Federal Food, Drug and Cosmetic Act (FDCA), its implementing regulations, and other laws including, in the case of biologics, the Public Health Service Act. Our antibody product candidates are subject to regulation by the FDA as a biologic. Biologics require the submission of a Biologics License Application (BLA) to the FDA and approval of the BLA by the FDA before marketing in the United States. The process of obtaining regulatory approvals for commercial sale and distribution and the subsequent compliance with applicable federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial civil or criminal sanctions. These sanctions could include the FDA's refusal to approve pending applications, license suspension or revocation, withdrawal of an approval, imposition of a clinical hold on clinical trials, warning letters, product recalls, product seizures, total or partial suspension of production, or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil and/or criminal penalties. The process required by the FDA before a biologic may be marketed in the United States generally involves the following:

1. completion of preclinical laboratory tests, animal studies, and formulation studies performed in accordance with the FDA's current Good Laboratory Practices (GLP) regulations;

2. submission to and acceptance by the FDA of an IND which must become effective before human clinical trials in the United States may begin;

3. performance of adequate and well-controlled human clinical trials in accordance with the FDA's current good clinical practices (GCP) regulations to establish the safety and efficacy of the product candidate for its intended use;

4. submission to and acceptance by the FDA of a BLA;

5. satisfactory completion of an FDA inspection (if the FDA deems it as a requirement) of the manufacturing facility or facilities where the product is produced to assess compliance with the FDA's cGMP regulations to assure that the facilities, methods, and controls are adequate to preserve the product's identity, strength, quality, and purity;

6. potential audits by the FDA of the nonclinical and clinical trial sites that generated the data in support of the BLA;

7. potential review of the BLA by an external Advisory Committee to the FDA, whose recommendations are not binding on the FDA; and

8. FDA review and approval of the BLA prior to any commercial marketing or sale.

Before testing any compounds with potential therapeutic value in humans, the product candidate enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, stability, and formulation, as well as animal studies to assess the potential toxicity and activity of the product candidate. Clinical trials involve the administration of the product candidate to human patients under the supervision of qualified investigators, generally physicians not employed by or under the clinical trial sponsor's control. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety and effectiveness. The FDA or responsible Institutional Review Board may place a trial on hold at any time related to perceived risks to patient safety.

1. *Phase 1.* The product candidate is initially introduced into a limited population of healthy human subjects, or in some cases, patients with the disease for which the drug candidate is intended, and tested for safety, dosage tolerance, absorption, metabolism, distribution, and excretion. In the case of some products for some diseases, or when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients with the disease or condition for which the product candidate is intended to gain an early indication of its effectiveness.

2. *Phase 2.* The product candidate is evaluated in a limited patient population (but larger than in Phase 1) to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted indications, and to assess dosage tolerance, optimal dosage, and dosing schedule.

3. *Phase 3.* Clinical trials are undertaken to further evaluate dosage and provide substantial evidence of clinical efficacy and safety in an expanded patient population (such as several hundred to several thousand) at geographically dispersed clinical trial sites. Phase 3 clinical trials are intended to establish the overall risk/benefit ratio of the product and provide an adequate basis for product labeling. Generally, two adequate and well-controlled Phase 3 clinical trials are required by the FDA for approval of a BLA.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the biologic and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements.

U.S. Review and Approval Processes

The results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests, proposed labeling, and other relevant information are submitted to the FDA in the form of a BLA requesting approval to market the product for one or more specified indications. The standard time for the FDA to accept a BLA filing is two months.

If the FDA determines that the BLA is substantially complete, it will accept the BLA for filing.

Once accepted for filing, the FDA reviews the BLA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP to assure and preserve the product's identity, strength, quality, and purity, and it may inspect the manufacturing facilities to assure cGMP compliance and clinical sites used during the clinical trials to assure cGMP compliance. The standard FDA review process is 10 months once a BLA is accepted for review but it can take longer. During the review process, the FDA also will determine whether a risk evaluation and mitigation strategy (REMS) is necessary to assure the safe use of the product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS prior to approval. A REMS can substantially increase the costs of obtaining approval. In addition, under the Pediatric Research Equity Act, a BLA or supplement to a BLA must contain data that are adequate to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements.

The FDA will issue a complete response letter describing deficiencies in the BLA and recommend actions if the agency decides not to approve the BLA. The applicant will have to address all of the deficiencies which could take substantial time to address.

If the product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, and may require that certain contraindications, warnings, or precautions be included in the product labeling. In addition, the FDA may require post marketing studies, sometimes referred to as Phase 4 testing, which involves clinical trials designed to further assess drug safety and effectiveness and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized.

Post-Approval Requirements

Any biologic products for which we or our collaborators receive FDA approvals are subject to continuing regulation by the FDA, including, among other things, cGMP compliance for product manufacture, record-keeping requirements, reporting of adverse experiences with the product, providing the FDA with updated safety and efficacy information, product sampling and distribution requirements, complying with certain electronic records and signature requirements, and complying with FDA promotion and advertising requirements, which include, among others, restrictions on direct-to-consumer advertising, promoting biologics for uses or in patient populations that are not described in the product's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Failure to comply with these or other FDA requirements can subject a manufacturer to possible legal or regulatory action, such as product reclass, warning letters, suspension of manufacturing, seizure of product, injunctive action, mandated corrective advertising or communications with healthcare professionals, possible civil or criminal penalties, or other negative consequences, including adverse publicity.

U.S. Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of the FDA approval of any of our biologic product candidates, we may apply for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years for one patent per product as compensation for patent term lost during product development and the FDA regulatory review process of that product. The U.S. Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration.

Market exclusivity provisions under the FDCA can also delay the submission or the approval of certain applications of other companies seeking to reference another company's BLA. Specifically, the Biologics Price Competition and Innovation Act established an abbreviated pathway for the approval of biosimilar and interchangeable biological products generally not earlier than 12 years after the original BLA approval. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on their similarity to existing brand product.

U.S. Foreign Corrupt Practices Act

The U.S. Foreign Corrupt Practices Act, to which we are subject, prohibits corporations and individuals from engaging in certain activities to obtain or retain business or to influence a person working in an official capacity. It is illegal to pay, offer to pay or authorize the payment of anything of value to any foreign government official, government staff member, political party or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in an official capacity.

Pharmaceutical Coverage, Pricing and Reimbursement

The cost of pharmaceuticals continues to generate substantial governmental and third-party payor interest. We expect that the pharmaceutical industry will experience pricing pressures due to the trend toward managed healthcare, the increasing influence of managed care organizations and additional legislative proposals. Significant uncertainty exists and will continue to exist as to the coverage and reimbursement status of any product candidate for which we obtain regulatory approval. In the United States and markets in other countries, sales of any product for which we receive regulatory approval for commercial sale will depend in part on the availability of coverage and adequate reimbursement from third-party payors. Third-party payors include government payor programs at the federal and state levels, including Medicare and Medicaid, managed care providers, private health insurers and other organizations. Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of medical products and services, in addition to their safety and efficacy. Formulary placement by third-party payors is very competitive and can lead to lower prices and may effectively restrict patient access to our drugs. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective.

The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost containment programs to limit the growth of government-paid healthcare costs, including price controls, restrictions on reimbursement and requirements for substitution of generic products for branded prescription drugs. In the United States, there has been heightened government scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, reduce the cost of products under Medicare, and reform government program reimbursement methodologies for products. For example, at the federal level, on May 11, 2018, President Trump laid out his administration's "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. On January 31, 2019, the Department of Health and Human Services (HHS) Office of Inspector General proposed modifications to federal Anti-Kickback Statute safe harbors which, among other things, if finalized, will affect discounts paid by manufacturers to Medicare Part D plans, Medicaid managed care organizations and pharmacy benefit managers working with these organizations. Although some of these and other proposals may require additional authorization to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislation and/or administrative measures to control pharmaceutical costs. In other countries, pricing and reimbursement schemes differ. In the European Community, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national healthcare systems that fund a large part of the cost of those products to consumers. The downward pressure on healthcare costs in general, and particularly prescription drugs, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country. There can be no assurance that any country that has price controls or reimbursement limitations for drug products will allow favorable reimbursement and pricing arrangements for any of our products.

Healthcare Reform

In the United States and foreign jurisdictions, there have been and will continue to be a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our product candidates profitably, once they are approved for sale. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

For example, in March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, which, as amended by the Health Care and Education Reconciliation act of 2010 (Affordable Care Act) is a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. In the years since its enactment, there have been, and continue to be, significant developments in, and continued legislative activity around, attempts to repeal or repeal and replace the Affordable Care Act. On December 14, 2018, a Texas U.S. District Court Judge ruled that the Affordable Care Act is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Cuts and Jobs Act of 2017. While the Texas U.S. District Court Judge, as well as the Trump administration and Centers for Medicare & Medicaid Services, have stated that the ruling will have no immediate effect pending appeal of the decision, it is unclear how this decision, subsequent appeals, and other efforts to repeal and replace the Affordable Care Act will impact the Affordable Care Act. In addition, other reform measures have been proposed and adopted since the Affordable Care Act was enacted.

Additional new laws may result in additional reductions in funding to Medicare and other healthcare programs and other healthcare funding, which could have a material adverse effect on our customers and our financial operations. Further, new laws may, among other things, increase drug rebates or discounts owed under federal health care programs, impose additional reporting or compliance obligations, and/or otherwise put additional downward pressure on drug prices or increase the burden of compliance on pharmaceutical manufacturers.

Other Healthcare Laws and Compliance Requirements

In the United States, the research, manufacturing, distribution, sale and promotion of drug products and medical devices are potentially subject to regulation by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare & Medicaid Services, other divisions of Health and Human Services (e.g., the Office of Inspector General), the U.S. Department of Justice, state Attorneys General, and other state and local government agencies. For example, sales, marketing and scientific/educational grant programs must comply with fraud and abuse laws such as the federal Anti-Kickback Statute, as amended, the federal civil False Claims Act, as amended, and similar state laws. Pricing and rebate programs must comply with the Medicaid Drug Rebate Program requirements of the Omnibus Budget Reconciliation Act of 1990, as amended, and the Veterans Health Care Act of 1992, as amended. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. All of these activities are also potentially subject to federal and state consumer protection and unfair competition laws.

The federal Anti-Kickback Statute prohibits, among other things, any person, including a prescription drug manufacturer (or a party acting on its behalf), from knowingly and willfully soliciting, receiving, offering or providing remuneration, directly or indirectly, to induce or reward either the referral of an individual, or the furnishing, recommending or arranging for a good or service, for which payment may be made under a federal healthcare program such as the Medicare and Medicaid programs. The federal civil False Claims Act imposes liability on any person or entity that, among other things, knowingly presents or causes to be presented, a false or fraudulent claim for payment by a federal healthcare program. The qui tam provisions of the federal civil False Claims Act allow a private individual to bring civil actions on behalf of the federal government alleging that the defendant has submitted a false claim to the federal government, and to share in any monetary recovery. In recent years, the number of suits brought by private individuals has increased dramatically. In addition, various states have enacted anti-kickback statues and false claims laws analogous to the federal civil False Claims Act. Also, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) created several additional federal crimes, including healthcare fraud, and false statements relating to the delivery of or payments for healthcare benefits, items or services. HIPAA, as amended the Health Information Technology for Economic and Clinical Health Act (HITECH), and its implementing regulations also established uniform federal standards for certain "covered entities" (certain healthcare providers, health plans and healthcare clearinghouses) and their "business associates" (individuals and entities that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity) governing the conduct of certain electronic healthcare transactions and protecting the security and privacy of protected health information. In addition, we may be subject to physician payment transparency laws and patient privacy and security regulation by the federal government and by the states and foreign jurisdictions in which we conduct our business.

Because of the breadth of these laws and the narrowness of available statutory exceptions and regulatory safe harbors, it is possible that some of our business activities could be subject to challenge under one or more of such laws. If our operations are found to be in violation of any of the federal and state laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including criminal and significant civil monetary penalties, damages, fines, imprisonment, exclusion from participation in government healthcare programs, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, private "qui tam" actions brought by individual whistleblowers in the name of the government or refusal to allow us to enter into supply contracts, including government contracts, additional oversight and reporting obligations, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Europe / Rest of World Government Regulation

In addition to regulations in the United States, we, and our collaborators, will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales, marketing and distribution of our products, similar or more stringent than the U.S. laws.

Whether or not we, or our collaborators, obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. The requirements and process governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In addition, we and our collaborators may be subject to foreign laws and regulations and other compliance requirements, including, without limitation, anti-kickback laws, false claims laws and other fraud and abuse laws, as well as laws and regulations requiring transparency of pricing and marketing information and governing the privacy and security of health information, such as the European Union's Directive $^{95}/_{46}$ on the Protection of Individuals with regard to the Processing of Personal Data.

If we, or our collaborators, fail to comply with applicable foreign regulatory requirements, we may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Employees

As of December 31, 2018, we had 156 employees, all of whom were full-time, 46 of whom hold Ph.D. or M.D. degrees, 128 of whom were engaged in research and development activities and 28 of whom were engaged in business development, finance, information systems, facilities, human resources or administrative support. None of our employees are represented by any collective bargaining unit. We believe that we maintain good relations with our employees.

Corporate Information

We were incorporated in California in August 1997 under the name Xencor. In September 2004, we reincorporated in the state of Delaware under the name Xencor, Inc. Our principal offices are located at 111 West Lemon Avenue, Monrovia, CA 91016, and our telephone number is (626) 305-5900. Our website address is www.xencor.com. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this Annual Report on Form 10-K (the Annual Report). Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed or furnished pursuant to Section 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on the Investor Relations portion of our web site at www.xencor.com as soon as reasonably practical after we electronically file such material with, or furnish it to, the Securities and Exchange Commission.

Item 1A. Risk Factors.

Except for the historical information contained herein or incorporated by reference, this Annual Report and the information incorporated by reference contains forward-looking statements that involve risks and uncertainties. These statements include projections about our accounting and finances, plans and objectives for the future, future operating and economic performance and other statements regarding future performance. These statements are not guarantees of future performance or events. Our actual results may differ materially from those discussed here. Factors that could cause or contribute to differences in our actual results include those discussed in the following section, as well as those discussed in Part II, Item 7 entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere throughout this Annual Report and in any other documents incorporated by reference into this Annual Report. You should consider carefully the following risk factors, together with all of the other information included or incorporated in this Annual Report. Each of these risk factors, either alone or taken together, could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock. There may be additional risks that we do not presently know of or that we currently believe are immaterial which could also impair our business and financial position.

Risks Relating to Our Business and to the Discovery, Development, Regulatory Approval of Our Product Candidates and other Legal Compliance Matters

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

We are a clinical-stage biopharmaceutical company. To date, we have financed our operations primarily through equity and debt financings and our research and development licensing agreements and have incurred significant operating losses since our inception in 1997. For the year ended December 31, 2018, our net loss was $70.5 million and our net loss for the year ended December 31, 2017 was $38.5 million. The only year that we did not sustain a net loss was the year ended December 31, 2016 when we earned a net income of $45.1 million. As of December 31, 2018, we had an accumulated deficit of $323.3 million. We expect to incur additional losses in future years as we execute our plan to continue our discovery, research and development activities, including the ongoing and planned clinical development of our antibody product candidates, and incur the additional costs of operating as a public company. We are unable to predict the extent of any future losses or when we will become profitable, if ever. Even if we do achieve profitability, we may not be able to sustain or increase profitability on an ongoing basis which would adversely affect our business, prospects, financial condition and results of operations.

Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of uncertainty. We have never generated any revenue from product sales and may never be profitable.

We have devoted substantially all of our financial resources and efforts to developing our proprietary XmAb technology platform, identifying potential product candidates and conducting preclinical studies and clinical trials. We and our partners are still in the early stages of developing our product candidates, and we have not completed development of any products. Our revenue to date has been primarily revenue from the license of our proprietary XmAb technology platform for the development of product candidates by others or revenue from our partners. Our ability to generate revenue and achieve profitability depends in large part on our ability, alone or with partners, to achieve milestones and to successfully complete the development of, obtain the necessary regulatory approvals for, and commercialize, product candidates. We do not anticipate generating revenues from sales of products for the foreseeable future. Our ability to generate future revenues from product sales depends heavily on our and our partners' success in:

1. completing clinical trials through all phases of clinical development of our current product candidates, including XmAb5871, XmAb7195, XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, and XmAb23104 and advancing into clinical development our current earlier stage programs, including XmAb24306 as well as the product candidates that are being developed by our partners and licensees;

2. seeking and obtaining marketing approvals for product candidates that successfully complete clinical trials;

3. obtaining satisfactory acceptance, formulary placement and coverage, and adequate reimbursement for our approved products from third-party payors, including private health insurers, managed care providers and governmental payor programs, including Medicare and Medicaid;

4. launching and commercializing product candidates for which we obtain marketing approval, with a partner or, if launched independently, successfully establishing a sales force, marketing and distribution infrastructure;

5. identifying and developing new XmAb-engineered therapeutic antibody candidates;

6. establishing and maintaining supply and manufacturing relationships with third parties;

7. obtaining additional licensing and partnering opportunities, similar to our partnerships with Genentech, Novartis, Amgen and MorphoSys, with leading pharmaceutical and biotechnology companies;

8. achieving the milestones set forth in our agreements with our partners;

9. conducting further research into the function and application of antibody Fc domains in order to expand the scope of our proprietary XmAb technology platform;

10. maintaining, protecting, expanding and enforcing our intellectual property; and

11. attracting, hiring and retaining qualified personnel.

Because of the numerous risks and uncertainties associated with biologic product development, we are unable to predict the timing or amount of increased expenses and when we will be able to achieve or maintain profitability, if ever. In addition, our expenses could increase beyond expectations if we are required by the U.S. Food and Drug Administration (FDA), or foreign regulatory agencies, to perform studies and trials in addition to those that we currently anticipate, or if there are any delays in our or our partners completing clinical trials or the development of any of our product candidates. If one or more of the product candidates that we independently develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing such product candidates. Even if we or our partners are able to generate revenues from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations, which may not be available to us on favorable terms, if at all. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product offerings or even continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

We will require additional financing and may be unable to raise sufficient capital, which could lead us to delay, reduce or abandon research and development programs or commercialization.

As of December 31, 2018, we had $530.5 million in cash, cash equivalents and marketable securities. We expect our expenses to increase in connection with our ongoing development activities, including the continued development of our pipeline of bispecific drug candidates including XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 and other research activities. Identifying potential product candidates and conducting preclinical testing and clinical trials are time-consuming, expensive and uncertain processes that take years to complete, and we or our partners may never generate the necessary data or results required to obtain regulatory approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success.

Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or any future commercialization efforts.

We believe our existing cash, together with interest thereon, will be sufficient to fund our operations beyond the end of 2024. However, changing circumstances or inaccurate estimates by us may cause us to use capital significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. For example, our current and our planned clinical trials for XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 or clinical trials for other drug candidates may encounter technical, enrollment or other issues that could cause our development costs to increase more than we expect. Under the Genentech Agreement, we will be sharing 45% of development costs worldwide for XmAb24306 and other IL-15 programs, and under the Novartis Agreement, we are co-developing XmAb14045 worldwide and sharing development costs. We do not have sufficient cash to complete the clinical development of any of our product candidates and will require additional funding to complete the development activities required for regulatory approval of XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, or XmAb24306 or any other future product candidates that we develop independently. Because successful development of our product candidates is uncertain, we are unable to estimate the actual funds we will require to complete research and development and commercialize our product candidates. Adequate additional financing may not be available to us on acceptable terms, or at all. In addition, we may seek additional capital due to favorable market conditions or strategic considerations; even if we believe we have sufficient funds for our current or future operating plans. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or any future commercialization efforts.

The development and commercialization of biologic products is subject to extensive regulation, and we may not obtain regulatory approvals for any of our product candidates.

The clinical development, manufacturing, labeling, packaging, storage, recordkeeping, advertising, promotion, export, import, marketing and distribution and other possible activities relating to XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 our current lead antibody product candidates, as well as any other antibody product candidate that we may develop in the future, are subject to extensive regulation in the United States as biologics. Biologics require the submission of a Biologics License Application (BLA) to the FDA and we are not permitted to market any product candidate in the United States until we obtain approval from the FDA of a BLA for that product. A BLA must be supported by extensive clinical and preclinical data, as well as extensive information regarding chemistry, manufacturing and controls (CMC) sufficient to demonstrate the safety, purity, potency and effectiveness of the applicable product candidate to the satisfaction of the FDA.

Regulatory approval of a BLA is not guaranteed, and the approval process is an expensive and uncertain process that may take several years. The FDA and foreign regulatory entities also have substantial discretion in the approval process. The number and types of preclinical studies and clinical trials that will be required for BLA approval varies depending on the product candidate, the disease or the condition that the product candidate is designed to target and the regulations applicable to any particular product candidate. Despite the time and expense associated with preclinical studies and clinical trials, failure can occur at any stage, and we could encounter problems that require us to repeat or perform additional preclinical studies or clinical trials or generate additional CMC data. The FDA and similar foreign authorities could delay, limit or deny approval of a product candidate for many reasons, including because they:

1. may not deem our product candidate to be adequately safe and effective;

2. may not find the data from our preclinical studies and clinical trials or CMC data to be sufficient to support a claim of safety and efficacy;

3. may not approve the manufacturing processes or facilities associated with our product candidate;

4. may conclude that we have not sufficiently demonstrated long-term stability of the formulation of the drug product for which we are seeking marketing approval;

5. may change approval policies or adopt new regulations; or

6. may not accept a submission due to, among other reasons, the content or formatting of the submission.

Generally, public concern regarding the safety of drug and biologic products could delay or limit our ability to obtain regulatory approval, result in the inclusion of unfavorable information in our labeling, or require us to undertake other activities that may entail additional costs.

We have not submitted an application for approval or obtained FDA approval for any product. This lack of experience may impede our ability to obtain FDA approval in a timely manner, if at all, for our product candidates.

To market any biologics outside of the United States, we and current or future collaborators must comply with numerous and varying regulatory and compliance related requirements of other countries. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods, including obtaining reimbursement and pricing approval in select markets. The time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks associated with FDA approval as well as additional, presently unanticipated, risks. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others, including the risk that our product candidates may not be approved for all indications requested and that such approval may be subject to limitations on the indicated uses for which the drug may be marketed. Certain countries have a very difficult reimbursement environment and we may not obtain reimbursement or pricing approval, if required, in all countries where we expect to market a product, or we may obtain reimbursement approval at a level that would make marketing a product in certain countries not viable.

If we experience delays in obtaining approval or if we fail to obtain approval of our product candidates, the commercial prospects for our product candidates may be harmed and our ability to generate revenues will be materially impaired which would adversely affect our business, prospects, financial condition and results of operations.

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 partners receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing 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, advertising, promotion, import, export 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 current good manufacturing practices (cGMPs), and current good clinical practices (cGCPs), 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, undesirable side effects caused by the product, problems encountered by our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, either before or after product approval, may result in, among other things:

1. restrictions on the marketing or manufacturing of the product;

2. requirements to include additional warnings on the label;

3. requirements to create a medication guide outlining the risks to patients;

4. withdrawal of the product from the market;

5. voluntary or mandatory product recalls;

6. requirements to change the way the product is administered or for us to conduct additional clinical trials;

7. fines, warning letters or holds on clinical trials;

8. refusal by the FDA to approve pending applications or supplements to approved applications filed by us or our strategic partners, or suspension or revocation of product license approvals;

9. product seizure or detention, or refusal to permit the import or export of products;

10. injunctions or the imposition of civil or criminal penalties; and

11. harm to our reputation.

Additionally, if any of our product candidates receives marketing approval, the FDA could require us to adopt a REMS to ensure that the benefits of the therapy outweigh its risks, which may include, among other things, a medication guide outlining the risks for distribution to patients and a communication plan to health care practitioners.

Moreover, the FDA strictly regulates marketing, labeling, advertising and promotion of products. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label, although physicians, in the practice of medicine, may prescribe approved drugs for unapproved indications. However, companies may share truthful and not misleading information that is otherwise consistent with the labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

Any of these events could prevent us from achieving or maintaining market acceptance of the product or the particular product candidate at issue and could significantly harm our business, prospects, financial condition and results of operations.

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. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

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. In addition, some of our competitors have ongoing clinical trials for product candidates that treat the same indications as our product candidates, and patients who would otherwise be eligible for our clinical trials may instead enroll in clinical trials of our competitors' product candidates.

Patient enrollment is affected by other factors including:

1. the severity of the disease under investigation;

2. the patient eligibility criteria for the study in question;

3. the perceived risks and benefits of the product candidate under study;

4. our payments for conducting clinical trials;

5. the patient referral practices of physicians;

6. the ability to monitor patients adequately during and after treatment; and

7. the proximity and availability of clinical trial sites for prospective patients.

Our inability to enroll a sufficient number of patients for any of our clinical trials could result in significant delays and could require us to abandon one or more clinical trials altogether. Enrollment delays in our clinical trials may result in increased development costs for our product candidates and in delays to commercially launching our product candidates, if approved, which would cause the value of our company to decline and limit our ability to obtain additional financing.

The manufacture of biopharmaceutical products, including XmAb-engineered antibodies, is complex and manufacturers often encounter difficulties in production. If we or any of our third-party manufacturers encounter any loss of our master cell banks or if any of our third-party manufacturers encounter other difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide product candidates for clinical trials or our products to patients, once approved, the development or commercialization of our product candidates could be delayed or stopped.

The manufacture of biopharmaceutical products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. We and our contract manufacturers must comply with cGMP regulations and guidelines. Manufacturers of biopharmaceutical products often encounter difficulties in production, particularly in scaling up and validating initial production and contamination. These problems include difficulties with production costs and yields, quality control, including stability of the product, quality assurance testing, operator error, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Furthermore, if microbial, viral or other contaminations are discovered in our products or in the manufacturing facilities in which our products are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

All of our XmAb engineered antibodies are manufactured by starting with cells which are stored in a cell bank. We have one master cell bank for each antibody manufactured in accordance with cGMP and multiple working cell banks and believe we would have adequate backup should any cell bank be lost in a catastrophic event. However, it is possible that we could lose multiple cell banks and have our manufacturing severely impacted by the need to replace the cell banks.

We cannot assure you that any stability or other issues relating to the manufacture of any of our product candidates or products will not occur in the future. Additionally, our manufacturer may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If our manufacturers were to encounter any of these difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide any product candidates to patients in clinical trials and products to patients, once approved, would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely. Any adverse developments affecting clinical or commercial manufacturing of our product candidates or products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our product candidates or products. We may also have to take inventory write-offs and incur other charges and expenses for product candidates or products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Accordingly, failures or difficulties faced at any level of our supply chain could materially adversely affect our business and delay or impede the development and commercialization of any of our product candidates or products and could have a material adverse effect on our business, prospects, financial condition and results of operations.

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

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

In February 2019, we received notice from the FDA placing the XmAb14045 study on partial clinical hold due to safety issues of cytokine release syndrome (CRS) and pulmonary toxicities. Under the partial hold, existing subjects on the trial may continue to receive dosing; however, no new subjects may be enrolled pending FDA review of a clinical hold response.

The partial clinical hold was initiated following recent safety reports Xencor submitted to the FDA on two patients deaths that were considered at least possibly related to XmAb14045. One patient experienced cytokine release syndrome (CRS) after their first dose, the treatment of which was complicated by the patient's decision to withdraw care. Once subject developed acute pulmonary edema following several doses of XmAb14045. Items to be addressed in the response include analysis of CRS cases per dosing level, efficacy information, and strategies to mitigate the observed toxicities.

Previously, we observed CRS as a toxicity in 55% of total patients dosed (36) with 6% of patients experiencing Grade 3 or Grade 4 CRS. Additional adverse events consistent with CRS but not reported as such, include chills, fever, tachycardia, hypotension and hypertension within 24 hours of infusion, were reported in an additional 29% of patients (19).

In our Phase 1b/2a clinical trial of XmAb5871, some subjects reported mild to moderate gastrointestinal toxicities (nausea, vomiting and diarrhea). Other treatment related adverse events experienced in more than two XmAb5871-treated patients were pyrexia (fever) and headache. Treatment related serious adverse events occurred in two patients that received XmAb5871: infusion related reaction and venous thrombosis. Further, in our Phase 1a clinical trial of XmAb7195 resulted in subjects having urticaria and dose limiting thrombocytopenia. If these or other side effects cause excessive discomfort, safety risks or reduction in acceptable dosage, then the development and commercialization of XmAb5871 or XmAb7195 could suffer significant negative consequences. We cannot predict if additional types of adverse events or more serious adverse events will be observed in future clinical trials of XmAb5871, XmAb7195 or any future product candidate.

In addition, we observed detectable levels of immunogenicity, or the creation by the immune system of anti-XmAb5871 antibodies, in 44% of subjects receiving XmAb5871 in the Phase 1a clinical trial. While a common occurrence for antibody therapies, immunogenicity to XmAb5871 or any of our other product candidates could neutralize the therapeutic effects of XmAb5871 or such other candidates and/or alter their pharmacokinetics, which could have a material adverse effect on the effectiveness of our product candidates and on our ability to commercialize them.

We may not be successful in our efforts to use and expand our XmAb technology platform to build a pipeline of product candidates and develop marketable products.

We are using our proprietary XmAb technology platform to develop engineered antibodies, with an initial focus on four properties: immune inhibition, cytotoxicity, extended half-life and most recently, heterodimeric Fc domains enabling molecules with dual target binding. This platform has led to our current pipeline of candidates as well as the other programs that utilize our technology and that are being developed by our partners and licensees. While we believe our preclinical and clinical data to date, together with our established partnerships, has validated our platform to a degree, we are at a very early stage of development. Although the first drug candidate incorporating our Fc technology has been approved by the FDA, other drug candidates that incorporate our Fc technologies or Fc candidates have not yet, and may never lead to, approved or marketable therapeutic antibody products. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of their harmful side effects, limited efficacy or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize product candidates based upon our technological approach, we may not be able to obtain product or partnership revenues in future periods, which would adversely affect our business, prospects, financial condition and results of operations.

We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.

The biotechnology and pharmaceutical industries are intensely competitive. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, biotechnology companies, universities and other research institutions. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations and well-established sales forces. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing on an exclusive basis, drug products that are more effective or less costly than any product candidate that we are currently developing or that we may develop.

We face intense competition in autoimmune disease drug development from multiple monoclonal antibodies, other biologics and small molecules approved for the treatment of autoimmune diseases many of which are being developed or marketed by large multinational pharmaceutical companies. GlaxoSmithKline's Benlysta (belimumab) is currently the only monoclonal antibody that we are aware of that is approved for the treatment of lupus although we believe that Biogen Idec/Genentech's Rituxan (rituximab) is prescribed, off label, for this indication. There is also no approved therapy for IgG4-RD but we believe Rituxan is prescribed, off label. In addition, these and other pharmaceutical companies have monoclonal antibodies or other biologics in clinical development for the treatment of autoimmune diseases.

Many companies have approved therapies or are developing drugs for the treatment of asthma including multinational pharmaceutical companies such as GlaxoSmithKline, Roche/Genentech, Novartis and AstraZeneca plc. Genentech's and Novartis' Xolair is currently the only monoclonal antibody targeting IgE that we are aware of that is approved for the treatment of severe asthma. Three other monoclonal antibodies, Nucala, Cinquair and Fasenra have recently been approved for treatment of severe asthma.

Competition in blood cancer drug development is intense, with more than 250 compounds in clinical trials by large multinational pharmaceutical companies and Rituxan is just one of many monoclonal antibodies approved for the treatment of non-Hodgkin lymphomas or other blood cancers. Both Roche and Regeneron have bispecific CD20 drug candidates in Phase 1 of development and there are many other companies developing their own bispecific platform technologies and drug candidates. MacroGenics has a bispecific CD123 x CD3 antibody currently in Phase 1 and Janssen has a CD123 x CD3 bispecific antibody that is also currently in Phase 1.

Our ability to compete successfully will depend largely on our ability to leverage our experience in drug discovery and development to:

1. discover and develop products that are superior to other products in the market;

2. attract qualified scientific, product development and commercial personnel;

3. obtain and maintain patent and/or other proprietary protection for our products and technologies;

4. obtain required regulatory approvals; and

5. successfully collaborate with pharmaceutical companies in the discovery, development and commercialization of new products.

The availability and price of our competitors' products could limit the demand, and the price we are able to charge, for any of our product candidates, if approved. We will not achieve our business plan if acceptance is inhibited by price competition or the reluctance of physicians to switch from existing drug products to our products, or if physicians switch to other new drug products or choose to reserve our products for use in limited circumstances.

Established biopharmaceutical companies may invest heavily to accelerate discovery and development of products that could make our product candidates less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA approval or discovering, developing and commercializing medicines before we do, which would have a material adverse impact on our business. We will not be able to successfully commercialize our product candidates without establishing sales and marketing capabilities internally or through collaborators.

Our current and future relationships with healthcare professionals, principal investigators, consultants, customers and third-party payors in the United States and elsewhere may be subject, directly or indirectly, to applicable anti-kickback, fraud and abuse, false claims, physician payment transparency, health information privacy and security and other healthcare laws and regulations, which could expose us to penalties.

Healthcare providers, physicians and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors may expose us to broadly applicable fraud and abuse and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute and the federal civil False Claims Act, that may constrain the business or financial arrangements and relationships through which we sell, market and distribute any product candidates for which we obtain marketing approval. In addition, we may be subject to physician payment transparency laws and patient privacy and security regulation by the federal government and by the states and foreign jurisdictions in which we conduct our business. The applicable federal, state and foreign healthcare laws that may affect our ability to operate include the following:

- the 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, or in return for, either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or service, for which payment may be made, in whole or in part, under federal and state healthcare programs such as Medicare and Medicaid;

- federal civil and criminal false claims laws, including, without limitation, the federal civil False Claims Act which can be enforced through civil whistleblower or qui tam actions, prohibits individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, including federal health care programs, such as, the Medicare and Medicaid programs, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;

- the civil monetary penalties statute, which imposes penalties against any person or entity who, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent;

- the Health Insurance Portability and Accountability Act of 1996 (HIPAA) which created additional federal civil and criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of whether the payor is public or private, knowingly and willfully embezzling or stealing from a health care benefit program, willfully obstructing a criminal investigation of a health care offense and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH), and their respective implementing regulations, which impose obligations on “covered entities,” including certain healthcare providers, health plans, and healthcare clearinghouses, as well as their respective “business associates” that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the Physician Payments Sunshine Act, created under Section 6002 of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "Affordable Care Act"), imposed annual reporting requirements for certain manufacturers of drugs, devices, biologics and medical supplies for certain payments and "transfers of value" provided to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Failure to submit timely, accurately and completely the required information for all payments, transfers of value and ownership or investment interests may result in significant civil monetary penalties; and

- analogous state and foreign laws, such as state anti-kickback and false claims laws, which 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 and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or to adopt compliance programs as prescribed by state laws and regulations, or that otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; state laws that require the reporting of information related to drug pricing; state and local laws that require the registration of pharmaceutical sales representatives; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Further, the Affordable Care Act, among other things, amended the intent requirement of the federal Anti-Kickback Statute and the healthcare fraud statute. A person or entity no longer needs to have actual knowledge of these statutes or specific intent to violate them in order to have committed a violation. In addition, the Affordable Care Act provided that 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 civil False Claims Act.

Efforts to ensure that our future business arrangements with third parties will comply with applicable healthcare laws and regulations may involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, including, without limitation, damages, fines, imprisonment, disgorgement, exclusion from participation in government healthcare programs, such as Medicare and Medicaid, additional reporting requirements and/or oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, and the curtailment or restructuring of our operations, as well as reputational harm, which could significantly harm our business.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain.

Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. In March 2010, President Obama signed into law the Affordable Care Act, a sweeping law intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms.

The Affordable Care Act established an annual, nondeductible fee on any entity that manufactures or imports certain specified branded prescription drugs and biologic agents, 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 most manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations, and provided incentives to programs that increase the federal government's comparative effectiveness research. In addition, the Affordable Care Act implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models.

There have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the Affordable Care Act. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the Affordable Care Act or otherwise circumvent some of the requirements for health insurance mandated by the Affordable Care Act. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the Affordable Care Act. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the Affordable Care Act have been signed into law. Legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act of 2017 (TCJA), includes a provision which repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the Affordable Care Act 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 January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain Affordable Care Act-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. The Bipartisan Budget Act of 2018 (BBA) among other things, amended the Affordable Care Act, effective January 1, 2019, to increase from 50 percent to 70 percent the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole". In July 2018, the Centers for Medicare & Medicaid Services (CMS) published a final rule permitting further collections and payments to and from certain Affordable Care Act qualified health plans and health insurance issuers under the Affordable Care Act risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. On December 14, 2018, a Texas U.S. District Court Judge ruled that the Affordable Care Act is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the TCJA. While the Texas U.S. District Court Judge, as well as the Trump administration and CMS, have stated that the ruling will have no immediate effect pending appeal of the decision, it is unclear how this decision, subsequent appeals, and other efforts to repeal and replace the Affordable Care Act will impact the Affordable Care Act and our business.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. On August 2, 2011, President Obama signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes reductions to Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013 and, due to subsequent legislation, including the BBA, will remain 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, which, among other things, reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Further, there has been heightened governmental scrutiny recently over the manner in which manufacturers set prices for their marketed products, which have resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, reduce the cost of products under Medicare, and reform government program reimbursement methodologies for products. At the federal level, the Trump administration's budget proposal for fiscal year 2019 contains further price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain products under Medicare Part B, to allow some states to negotiate product prices under Medicaid, and to eliminate cost sharing for generics for low-income patients. Additionally, the Trump administration released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. HHS has already started the process of soliciting feedback on some of these measures and, at the same, is immediately implementing others under its existing authority. For example, in September 2018, CMS announced that it will allow Medicare Advantage Plans the option to use step therapy for Part B drugs beginning January 1, 2019, and in October 2018, HHS through CMS proposed a new rule that would require direct-to-consumer television advertisements of prescription drugs and biological products, for which payment is available through or under Medicare or Medicaid, to include in the advertisement the Wholesale Acquisition Cost, or list price, of that drug or biological product. On January 31, 2019, the HHS Office of Inspector General proposed modifications to the federal Anti-Kickback Statute discount safe harbor for the purpose of reducing the cost of drug products to consumers which, among other things, if finalized, will affect discounts paid by manufacturers to Medicare Part D plans, Medicaid managed care organizations and pharmacy benefit managers working with these organizations. While some of these and other proposed measures may require additional authorization to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control pharmaceutical costs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We expect 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 products or additional pricing pressure.

Additionally, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and Matthew Bellina Right to Try Act of 2017 (the Right to Try Act) was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a pharmaceutical manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act.

We expect that healthcare reform measures that may be adopted in the future may result in more rigorous coverage criteria and lower reimbursement, and in additional downward pressure on the price that may be charged for any of our product candidates, if approved.

Even if we are able to commercialize any product candidates, our product candidates may be subject to unfavorable pricing regulations, third-party coverage and reimbursement policies or healthcare reform initiatives.

Our ability to commercialize any product candidates successfully will depend, in part, on the extent to which coverage and adequate reimbursement for our product candidates will be available from government payor programs at the federal and state levels, including Medicare and Medicaid, private health insurers, managed care plans and other third-party payors. Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, decide which medical products they will pay for and establish reimbursement levels. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for products. Coverage and reimbursement may not be available for any product that we commercialize and, even if these are available, the level of reimbursement may not be satisfactory. Inadequate reimbursement levels may adversely affect the demand for, or the price of, any product candidate for which we obtain marketing approval. Obtaining and maintaining adequate reimbursement for our drugs may be difficult. We may be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement compared to other therapies. If coverage and adequate reimbursement are not available or reimbursement is available only to limited levels, we may not be able to successfully commercialize any product candidates for which marketing approval is obtained.

In addition, net prices for products 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 products from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. However, no uniform policy requirement for coverage and reimbursement for drug products exists among third-party payors in the United States. Therefore, coverage and reimbursement can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained at all. Further, there may be significant delays in obtaining coverage and reimbursement for newly approved products, and coverage may be more limited than the indications for which the product is approved by the FDA or similar regulatory authorities outside the United States. Moreover, eligibility for coverage and reimbursement does not imply that a product will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution expenses. Interim reimbursement levels for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could significantly harm our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drugs and biological products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues able to be generated 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 marketing approval.

There can be no assurance that our product candidates, if they are approved for sale in the United States or in other countries, will be considered medically reasonable and necessary for a specific indication, that they will be considered cost-effective by third-party payors, that coverage or an adequate level of reimbursement will be available, or that third-party payors' reimbursement policies will not adversely affect our ability to sell our product candidates profitably if they are approved for sale.

Our business could be negatively impacted by cyber security threats.

In the ordinary course of our business, we use our data centers and our networks to store and access our proprietary business information. We face various cyber security threats, including cyber security attacks to our information technology infrastructure and attempts by others to gain access to our proprietary or sensitive information. The procedures and controls we use to monitor these threats and mitigate our exposure may not be sufficient to prevent cyber security incidents. The result of these incidents could include disrupted operations, lost opportunities, misstated financial data, liability for stolen assets or information, increased costs arising from the implementation of additional security protective measures, litigation and reputational damage. Any remedial costs or other liabilities related to cyber security incidents may not be fully insured or indemnified by other means.

Risks Relating to Our Dependence on Third Parties

Our existing partnerships are important to our business, and future partnerships may also be important to us. If we are unable to maintain any of these partnerships, or if these partnerships are not successful, our business could be adversely affected.

Because developing biologics products, conducting clinical trials, obtaining regulatory approval, establishing manufacturing capabilities and marketing approved products are expensive, we have entered into partnerships, and may seek to enter into additional partnerships, with companies that have more resources and experience than us, and we may become dependent upon the establishment and successful implementation of partnership agreements.

Our partnership and license agreements include those we have announced with Genentech, Novartis, Amgen, MorphoSys, Alexion and others. These partnerships and license agreements also have provided us with important funding for our development programs, and we expect to receive additional funding under these partnerships in the future. Our existing partnerships, and any future partnerships we enter into, may pose a number of risks, including the following:

1. collaborators have significant discretion in determining the efforts and resources that they will apply to these partnerships. In December 2018, Novartis notified us of its decision to return the rights to XmAb13676 to us under the terms of the Novartis Agreement;

2. our collaboration agreement with Novartis provides for us to co-develop worldwide with Novartis our lead bispecific candidate, XmAb14045, and share development costs. Such an arrangement may require us to incur substantial costs in excess of our available resources;

3. our potential collaboration agreement with Genentech requires that we fund 45% of worldwide development costs of XmAb24306 and other IL-15 candidates. Such an arrangement may require us to incur substantial costs in excess of available resources;

4. collaborators may not perform their obligations as expected;

5. collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;

6. 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;

7. collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates 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, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;

8. a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product or products;

9. disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;

10. while we have generally retained the right to maintain and defend our intellectual property under our agreements with collaborators, certain collaborators may not properly maintain or defend certain of 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;

11. collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;

12. collaborators may learn about our technology and use this knowledge to compete with us in the future;

13. results of collaborators' preclinical or clinical studies could produce results that harm or impair other products using our XmAb technology platform;

14. there may be conflicts between different collaborators that could negatively affect those partnerships and potentially others; and

15. the number and type of our partnerships could adversely affect our attractiveness to future collaborators or acquirers.

If our partnerships and license agreements do not result in the successful development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research and development funding or milestone or royalty payments under the arrangement. If we do not receive the funding we expect under these arrangements, our continued development of our product candidates could be delayed and we may need additional resources to develop additional product candidates. All of the risks described in these risk factors relating to product development, regulatory approval and commercialization described in this Annual Report also apply to the activities of our collaborators and there can be no assurance that our partnerships and license agreements will produce positive results or successful products on a timely basis or at all.

Our partnership agreements generally grant our collaborators exclusive rights under certain of our intellectual property, and may therefore preclude us from entering into partnerships with others relating to the same or similar compounds, indications or diseases. In addition, partnership agreements may place restrictions or additional obligations on our ability to license additional compounds in different indications, diseases or geographical locations. If we fail to comply with or breach any provision of a partnership agreement, a collaborator may have the right to terminate, in whole or in part, such agreement or to seek damages. Many of our collaborators also have the right to terminate the partnership agreement for convenience. If a partnership agreement is terminated, in whole or in part, we may be unable to continue the development and commercialization of the applicable product candidates, and even if we are able to do so, such efforts may be delayed and result in additional costs.

There is no assurance that a collaborator who is acquired by a third party would not attempt to change certain contract provisions that could negatively affect our partnership. The acquiring company may also not accept the terms or assignment of our contracts and may seek to terminate the agreements. Any one of our partners could breach covenants, restrictions and/or sub-license agreement provisions leading us into disputes and potential breaches of our agreements with other partners.

We may in the future determine to partner with additional pharmaceutical and biotechnology companies for development and potential commercialization of therapeutic products. We face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for a partnership will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed partnership and the proposed collaborator's evaluation of a number of factors. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into partnerships and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our product platform and our business, prospects, financial condition and results of operations may be materially and adversely affected.

We rely upon third-party contractors and service providers for the execution of most aspects of our development programs. Failure of these collaborators to provide services of a suitable quality and within acceptable timeframes may cause the delay or failure of our development programs.

We outsource certain functions, tests and services to contract research organizations (CROs), medical institutions and collaborators as well as outsourcing manufacturing to collaborators and/or contract manufacturers, and we rely on third parties for quality assurance, clinical monitoring, clinical data management and regulatory expertise. We also have engaged, and may in the future engage, a CRO to run all aspects of a clinical trial on our behalf. There is no assurance that such individuals or organizations will be able to provide the functions, tests, biologic supply or services as agreed upon or in a quality fashion and we could suffer significant delays in the development of our products or processes.

In some cases there may be only one or few providers of such services, including clinical data management or manufacturing services. In addition, the cost of such services could be significantly increased over time. We rely on third parties and collaborators as mentioned above to enroll qualified patients and conduct, supervise and monitor our clinical trials. Our reliance on these third parties and collaborators for clinical development activities reduces our control over these activities. Our reliance on these parties, however, does not relieve us of our regulatory responsibilities, including ensuring that our clinical trials are conducted in accordance with GCP regulations and the investigational plan and protocols contained in the regulatory agency applications. In addition, these third parties may not complete activities on schedule or may not manufacture under GMP conditions. Preclinical or clinical studies may not be performed or completed in accordance with Good Laboratory Practices (GLP) regulatory requirements or our trial design. If these third parties or collaborators do not successfully carry out their contractual duties or meet expected deadlines, obtaining regulatory approval for manufacturing and commercialization of our product candidates may be delayed or prevented. We rely substantially on third-party data managers for our clinical trial data. There is no assurance that these third parties will not make errors in the design, management or retention of our data or data systems. There is no assurance these third parties will pass FDA or regulatory audits, which could delay or prohibit regulatory approval.

We rely on third parties to manufacture supplies of our preclinical and clinical product candidates. The development of such candidates could be stopped or delayed if any such third party fails to provide us with sufficient quantities of product or fails to do so at acceptable quality levels or prices or fails to maintain or achieve satisfactory regulatory compliance.

We do not currently have nor do we plan to acquire the infrastructure or capability internally to manufacture our clinical drug supplies for use in the conduct of our clinical trials, and we lack the resources and the capability to manufacture any clinical candidates on a clinical scale. Instead, we rely on our third-party manufacturing partners, Fuji, to produce XmAb5871 and third parties for fill and testing services, and we rely on KBI to produce our bispecific Fc development candidates. Any of our contract manufacturers may not perform as agreed, may be unable to comply with cGMP requirements and with FDA, state and foreign regulatory requirements or may terminate their respective agreements with us.

In addition, manufacturers are subject to ongoing periodic unannounced inspection by the FDA and other governmental authorities to ensure strict compliance with government regulations. We do not control the manufacturing processes of KBI or Fuji and are currently completely dependent on KBI and Fuji for the production of XmAb5871, XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 in accordance with cGMP, which include, among other things, quality control, quality assurance and the maintenance of records and documentation. If we were to experience an unexpected loss of supply, we could experience delays in our planned clinical trials as KBI or Fuji would need to manufacture additional clinical drug supply and would need sufficient lead time to schedule a manufacturing slot. While there are other potential suppliers of clinical supplies of our biologics, the long transition periods necessary to switch manufacturers for any of XmAb5871, XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 would significantly delay our clinical trials and the commercialization of such products, if approved.

We intend to rely on third parties to manufacture commercial supplies of our product candidate. If we are unable to enter into commercial supply agreements with third-party suppliers or if any such third-party supplier fails to provide us with sufficient quantities or fails to comply with regulatory requirements, commercialization of such products could be delayed or stopped.

We do not currently have nor do we plan to acquire the infrastructure or capability internally to manufacture our products on a commercial scale. Although we have entered into agreements for the manufacture of clinical supplies of XmAb5871, XmAb7195, XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 we have not entered into a commercial supply agreement with KBI or FUJI. Further, KBI has not demonstrated that it will be capable of manufacturing XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306 on a large commercial scale. We might be unable to identify manufacturers for late stage clinical trials or commercial supply on acceptable terms or at all. A change to the manufacturing process for any of our product candidates would cause us to incur significant costs and to devote significant efforts to implement such a change. Additionally, the late-stage clinical development and commercialization of XmAb5871 or other product candidates by us or our collaborators may be delayed as a result, which would materially and adversely affect our business.

If our third-party manufacturers cannot successfully manufacture material that conforms to our specifications and the applicable regulatory authorities' strict regulatory requirements, or pass regulatory inspection, they will not be able to secure or maintain regulatory approval for the manufacturing facilities. In addition, we have no control over the ability of any third-party manufacturer to maintain adequate quality control, quality assurance and qualified personnel. The facilities used by our third-party manufacturers to manufacture XmAb5871, XmAb7195, XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, XmAb24306 and any other potential product candidates that we may develop in the future must be approved by the applicable regulatory authorities, including the FDA, pursuant to inspections that will be conducted after we submit our BLA to the FDA. In addition, manufacturers are subject to ongoing periodic unannounced inspection by the FDA and other governmental authorities to ensure strict compliance with government regulations. If the FDA or any other applicable regulatory authorities do not approve these facilities for the manufacture of our products or if they withdraw any such approval in the future, or if our suppliers or third-party manufacturer decide they no longer want to supply our biologics or manufacture our products, we may need to find alternative manufacturing facilities, which would significantly impact our ability to market our products and our business, prospects, financial condition and results of operations may be materially and adversely affected.

Risks Relating to Our Intellectual Property

If we are unable to obtain, maintain and enforce intellectual property protection covering our products, others may be able to make, use or sell products substantially the same as ours, which could adversely affect our ability to compete in the market.

Our commercial success depends, in part, on our ability to obtain, maintain and enforce patents, trade secrets, trademarks and other intellectual property rights and to operate without having third parties infringe, misappropriate or circumvent the rights that we own or license. The value of many of our partnered licensing arrangements is based on the underlying intellectual property and related patents. If we are unable to obtain, maintain and enforce intellectual property protection covering our products or underlying technologies, others may be able to make, use or sell products that are substantially the same as ours without incurring the sizeable development and licensing costs that we have incurred, which would adversely affect our ability to compete in the market. As of December 31, 2018, we held over 750 issued patents and pending patent applications. We file patent applications in the United States, Canada, Japan, Europe and other major markets either directly or via the Patent Cooperation Treaty. Our ability to stop third parties from making, using, selling, offering to sell or importing our product candidates is dependent upon the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities. However, the patent positions of biopharmaceutical companies, including ours, can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in patents in these fields has emerged to date in the United States. The U.S. patent laws have recently changed, there have been changes regarding how patent laws are interpreted, and the U.S. Patent and Trademark Office (the PTO) has also implemented changes to the patent system. Some of these changes are currently being litigated, and we cannot accurately determine the outcome of any such proceedings or predict future changes in the interpretation of patent laws or changes to patent laws which might be enacted into law. Those changes may materially affect our patents, our ability to obtain patents or the patents and applications of our collaborators and licensors. The patent situation in the biopharmaceutical industry outside the United States is even more uncertain. Therefore, there is no assurance that our pending patent applications will result in the issuance of patents or that we will develop additional proprietary products which are patentable. Moreover, patents issued or to be issued to us may not provide us with any competitive advantage. Our patent position is subject to numerous additional risks, including the following:

1. we may fail to seek patent protection for inventions that are important to our success;

2. our pending patent applications may not result in issued patents;

3. we cannot be certain that we are the first to invent the inventions covered by pending patent applications or that we were the first to file such applications and, if we are not, we may be subject to priority disputes;

4. we may be required to disclaim part or all of the term of certain patents or all of the term of certain patent applications;

5. we may file patent applications but have claims restricted or we may not be able to supply sufficient data to support our claims and, as a result, may not obtain the original claims desired or we may receive restricted claims. Alternatively, it is possible that we may not receive any patent protection from an application;

6. we could inadvertently abandon a patent or patent application, resulting in the loss of protection of certain intellectual property rights in a certain country. We, our collaborators or our patent counsel may take action resulting in a patent or patent application becoming abandoned which may not be able to be reinstated or if reinstated, may suffer patent term adjustments;

7. the claims of our issued patents or patent applications when issued may not cover our product candidates;

8. no assurance can be given that our patents would be declared by a court to be valid or enforceable or that a competitor's technology or product would be found by a court to infringe our patents. Our patents or patent applications may be challenged by third parties in patent litigation or in proceedings before the PTO or its foreign counterparts, and may ultimately be declared invalid or unenforceable, or narrowed in scope;

9. there may be prior art of which we are not aware that may affect the validity or enforceability of a patent claim. There also may be prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim;

10. third parties may develop products which have the same or similar effect as our products without infringing our patents. Such third parties may also intentionally circumvent our patents by means of alternate designs or processes or file applications or be granted patents that would block or hurt our efforts;

11. there may be dominating patents relevant to our product candidates of which we are not aware;

12. our patent counsel, lawyers or advisors may have given us, or may in the future give us incorrect advice or counsel. Opinions from such patent counsel or lawyers may not be correct or may be based on incomplete facts;

13. obtaining regulatory approval for biopharmaceutical products is a lengthy and complex process, and as a result, any patents covering our product candidates may expire before, or shortly after such product candidates are approved and commercialized;

14. the patent and patent enforcement laws of some foreign jurisdictions do not protect intellectual property rights to the same extent as laws in the United States, and many companies have encountered significant difficulties in protecting and defending such rights in foreign jurisdictions. If we encounter such difficulties or we are otherwise precluded from effectively protecting our intellectual property rights in foreign jurisdictions, our business prospects could be substantially harmed; and

15. we may not develop additional proprietary technologies that are patentable.

Any of these factors could hurt our ability to gain full patent protection for our products. Registered trademarks and trademark applications in the United States and other countries are subject to similar risks as described above for patents and patent applications, in addition to the risks described below.

Many of our product development partnership agreements are complex and may call for licensing or cross-licensing of potentially blocking patents, know-how or intellectual property. Due to the potential overlap of data, know-how and intellectual property rights there can be no assurance that one of our collaborators will not dispute our right to use, license or distribute data, know-how or other intellectual property rights, and this may potentially lead to disputes, liability or termination of a program. There are no assurances that our actions or the actions of our collaborators would not lead to disputes or cause us to default with other collaborators. For example, we may become involved in disputes with our collaborators relating to the ownership of intellectual property developed in the course of the partnership. We also cannot be certain that a collaborator will not challenge the validity or enforceability of the patents we license.

We cannot be certain that any country's patent and/or trademark office will not implement new rules which could seriously affect how we draft, file, prosecute and/or maintain patents, trademarks and patent and trademark applications. We cannot be certain that increasing costs for drafting, filing, prosecuting and maintaining patents, trademarks and patent and trademark applications will not restrict our ability to file for patent protection. For example, we may elect not to seek patent protection in certain jurisdictions or for certain inventions in order to save costs. We may be forced to abandon or return the rights to specific patents due to a lack of financial resources.

We currently rely, and may in the future rely, on certain intellectual property rights licensed from third parties to protect our technology and certain product candidates. We have licensed and sublicensed certain intellectual property relating to our Xtend technology from a third party. We have also sublicensed certain intellectual property rights related to our bispecific technology from a third party and, we have licensed certain intellectual property rights from a third party related to our XmAb18087 product candidate. We also license certain rights to the underlying cell lines for all our product candidates from third parties. Under these licenses, we have no right to control patent prosecution of the intellectual property or to enforce the patents, and as such the licensed rights may not be adequately maintained by the licensors. The termination of these or other licenses could also prevent us from commercializing product candidates covered by the licensed intellectual property.

Furthermore, the research resulting in the in-licensed patents was developed in the course of research funded by the U.S. government. As a result, the U.S. government may have certain rights ("march-in rights") to intellectual property embodied in our Xtend products. Government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. Circumstances that trigger march-in rights include, for example, failure to take, within a reasonable time, effective steps to achieve practical application of the invention in a field of use, failure to satisfy the health and safety needs of the public and failure to meet requirements of public use specified by federal regulations. Federal law requires any licensor of an invention that was partially funded by the federal government to obtain a covenant from any exclusive licensee to manufacture products using the invention substantially in the United States. The U.S. government also has the right to use and disclose, without limitation, scientific data relating to licensed technology that was developed in whole or in part at government expense. The government funding agency can elect to exercise these march-in rights on their own initiative or at the request of a third party. It is also possible that we might knowingly or unknowingly in-license additional technology that is subject to U.S. government march-in rights.

We intend to file applications for trademark registrations in connection with our product candidates in various jurisdictions, including the United States. No assurance can be given that any of our trademark applications will be registered in the United States or elsewhere, or that the use of any registered or unregistered trademarks will confer a competitive advantage in the marketplace. Furthermore, even if we are successful in our trademark registrations, the FDA and regulatory authorities in other countries have their own process for drug nomenclature and their own views concerning appropriate proprietary names. No assurance can be given that the FDA or any other regulatory authority will approve of any of our trademarks or will not request reconsideration of one of our trademarks at some time in the future. The loss, abandonment, or cancellation of any of our trademarks or trademark applications could negatively affect the success of the product candidates to which they relate.

If we are not able to prevent disclosure of our trade secrets and other proprietary information, the value of our technology and products could be significantly diminished.

We rely on trade secret protection to protect our interests in proprietary know-how and in processes for which patents are difficult to obtain or enforce. We may not be able to protect our trade secrets adequately. We have a policy of requiring our consultants, advisors and collaborators to enter into confidentiality agreements and our employees to enter into invention, non-disclosure and non-compete agreements. However, no assurance can be given that we have entered into appropriate agreements with all parties that have had access to our trade secrets, know-how or other proprietary information. There is also no assurance that such agreements will provide for a meaningful protection of our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure of information. Furthermore, we cannot provide assurance that any of our employees, consultants, contract personnel, or collaborators, either accidentally or through willful misconduct, will not cause serious damage to our programs and/or our strategy, for example by disclosing important trade secrets, know-how or proprietary information to our competitors. It is also possible that our trade secrets, know-how or other proprietary information could be obtained by third parties as a result of breaches of our physical or electronic security systems. Any disclosure of confidential data into the public domain or to third parties could allow our competitors to learn our trade secrets and use the information in competition against us. In addition, others may independently discover our trade secrets and proprietary information. Any action to enforce our rights is likely to be time consuming and expensive, and may ultimately be unsuccessful, or may result in a remedy that is not commercially valuable. These risks are accentuated in foreign countries where laws or law enforcement practices may not protect proprietary rights as fully as in the United States or Europe. Any unauthorized disclosure of our trade secrets or proprietary information could harm our competitive position.

We may be required to reduce the scope of our intellectual property due to third-party intellectual property claims.

Our competitors may have filed, and may in the future file, patent applications covering technology similar to ours. Any such patent application may have priority over our patent applications, which could further require us to obtain rights to issued patents covering such technologies. If another party has filed a U.S. patent application on inventions similar to ours that claims priority to an application filed prior to March 16, 2013, we may have to participate in an interference proceeding declared by the PTO to determine priority of invention in the United States. The costs of these proceedings could be substantial, and it is possible that such efforts would be unsuccessful if, unbeknownst to us, the other party had independently arrived at the same or similar invention prior to our own invention, resulting in a loss of our U.S. patent position with respect to such inventions. In addition, changes enacted on March 15, 2013 to the U.S. patent laws under the America Invents Act resulted in the United States changing from a “first to invent” country to a “first to file” country. As a result, we may lose the ability to obtain a patent if a third-party files with the PTO first and could become involved in proceedings before the PTO to resolve disputes related to inventorship. We may also become involved in similar proceedings in other jurisdictions.

Furthermore, recent changes in U.S. patent law under the America Invents Act allows for post-issuance challenges to U.S. patents, including ex parte reexaminations, inter parte reviews and post-grant oppositions. There is significant uncertainty as to how the new laws will be applied and if our U.S. patents are challenged using such procedures, we may not prevail, possibly resulting in altered or diminished claim scope or loss of patent rights altogether. Similarly, some countries, notably members of the European Union, also have post grant opposition proceedings that can result in changes in scope and/or cancellation of patent claims.

Our products could infringe patents and other property rights of others, which may result in costly litigation and, if we are not successful, could cause us to pay substantial damages or limit our ability to commercialize our products, which could have a material adverse effect on our business.

Our commercial success depends upon our ability, and the ability of our collaborators, to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the patents and other proprietary rights of third parties. There is considerable intellectual property litigation in the biotechnology and pharmaceutical industries. For example, we are aware of issued U.S. patents and patent applications owned by Genentech that may relate to and claim components of certain of our product candidates, including XmAb5871, XmAb7195 and XmAb5574/MOR208 or their manufacture. We believe that these patents and patent applications will expire in the United States in 2020 and 2021, respectively. Furthermore, we are aware of a recently issued patent owned by Merus B.V. (Merus) that may relate to and claim components of our bispecific product candidates, including XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb23104, XmAb22814, and XmAb24306, and will putatively expire in 2033. It is possible that these terms could be extended, for example, as a result of patent term restoration to compensate for regulatory delays. While we believe that our current development of these five candidates currently falls into the "safe harbor" of non-infringement under 35 U.S.C. §271(e)(1), this protection terminates upon commercialization. In addition, there can be no assurance that our interpretation of this statutory exemption would be upheld. Furthermore, while we believe that claims in the Genentech patents are either invalid or not infringed, we cannot assure you that if we were sued for infringement of these patents that we would prevail. We are currently evaluating the Merus patent; based on our analysis to date we believe there exists reasonable argument of invalidity and/or infringement; however, we cannot assure that this position will not change upon further investigation. In order to successfully challenge the validity of any issued U.S. patent, we would need to overcome a presumption of validity. This burden is a high one requiring us to present clear and convincing evidence as to the invalidity of such claims. There is no assurance that a court would find these claims to be invalid or not infringed.

In addition, as the biopharmaceutical industry expands and more patents are issued, the risk increases that there may be patents issued to third parties that relate to our products and technology of which we are not aware or that we must challenge to continue our operations as currently contemplated. Our products may infringe or may be alleged to infringe these patents. Because some patent applications in the United States may be maintained in secrecy until the patents are issued, because patent applications in the United States and many foreign jurisdictions are typically not published until eighteen months after filing and because publications in the scientific literature often lag behind actual discoveries, we cannot be certain that others have not filed patents that may cover our technologies, our product candidates or their use. Additionally, pending patent applications which have been published can, subject to certain limitations, be later amended in a manner that could cover our technologies, our products or the use of our products. We may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future.

If we are sued for patent infringement, we would need to demonstrate that our products or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and divert management's time and attention in pursuing these proceedings, which could have a material adverse effect on us.

Any such claims are likely to be expensive to defend, and 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.

If we are found to infringe a third party's intellectual property rights, we could be required to obtain a license from such third party to continue developing and marketing our products and technology. We may also elect to enter into such a license in order to settle litigation or in order to resolve disputes prior to litigation. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us, and could require us to make substantial royalty payments. We could also be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

Our intellectual property may be infringed upon by a third party.

Third parties may infringe one or more of our issued patents or trademarks. We cannot predict if, when or where a third party may infringe one or more of our issued patents or trademarks. To counter infringement, we may be required to file infringement claims, which can be expensive and time consuming. There is no assurance that we would be successful in a court of law in proving that a third party is infringing one or more of our issued patents or trademarks. Any claims we assert against perceived infringers could also provoke these parties to assert counterclaims against us, alleging that we infringe their intellectual property. In addition, in a patent infringement proceeding, a court may decide that a patent of ours is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly and/or refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question, any of which may adversely affect our business. Even if we are successful in proving in a court of law that a third party is infringing one or more of our issued patents or trademarks there can be no assurance that we would be successful in halting their infringing activities, for example, through a permanent injunction, or that we would be fully or even partially financially compensated for any harm to our business. We may be forced to enter into a license or other agreement with the infringing third party at terms less profitable or otherwise commercially acceptable to us than if the license or agreement were negotiated under conditions between those of a willing licensee and a willing licensor. We may not become aware of a third-party infringer within legal timeframes for compensation or at all, thereby possibly losing the ability to be compensated for any harm to our business. Such a third party may be operating in a foreign country where the infringer is difficult to locate and/or the intellectual property laws may be more difficult to enforce. Some third-party infringers may be able to sustain the costs of complex infringement litigation more effectively than we can because they have substantially greater resources. Any inability to stop third-party infringement could result in loss in market share of some of our products or even lead to a delay, reduction and/or inhibition of the development, manufacture or sale of certain products by us. There is no assurance that a product produced and sold by a third-party infringer would meet our or other regulatory standards or would be safe for use. Such third-party infringer products could irreparably harm the reputation of our products thereby resulting in substantial loss in market share and profits.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of our employees' former employers or other third parties. We may also be subject to claims that former employers or other third parties have an ownership interest in our patents. Litigation may be necessary to defend against these claims. There is no guarantee of success in defending these claims, and if we do not prevail, we could be required to pay substantial damages and could lose rights to important intellectual property. Even if we are successful, litigation could result in substantial cost and be a distraction to our management and other employees.

Risks Related to Employee Matters and Managing Growth and Other Risks Related to Our Business

We are subject to competition for our skilled personnel and may experience challenges in identifying and retaining key personnel that could impair our ability to conduct and grow our operations effectively.

Our planned growth and future success depends on our ability to retain our executive officers and to attract, retain and motivate qualified personnel. If we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy. Although we have not experienced problems attracting and retaining highly qualified personnel in the recent past, our industry has experienced a high rate of turnover of management personnel in recent years. Our ability to compete in the highly competitive biotechnology and pharmaceuticals industries depends upon our ability to attract and retain highly qualified management, scientific and medical personnel. We are highly dependent on our current management team, whose services are critical to the successful implementation of our product candidate development and regulatory strategies. In order to induce valuable employees to continue their employment with us, we have provided stock options that vest over time. The value to employees of stock options that vest over time is significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies.

Despite our efforts to retain valuable employees, members of our management team may terminate their employment with us at any time, with or without notice. Further, we do not maintain "key person" insurance for any of our executives or other employees. The loss of the services of any of our executive officers and our inability to find suitable replacements could harm our business, financial condition, prospects and ability to achieve the successful development or commercialization of our product candidates. Our success also depends on our ability to continue to attract, retain and motivate highly skilled scientific and medical personnel at all levels.

In 2016 we began to increase the number of our employees and expand the scope of our operations with a goal of advancing multiple clinical candidates into development. The increase in employees, especially in clinical development, places a significant strain on our management, operations and financial resources, and we may have difficulty managing this future potential growth. As we continue to grow our operations and advance our clinical programs into later stages of development, it will require us to recruit and retain employees with additional knowledge and skill sets and no assurance can be provided that we will be able to attract employees with the necessary skill set to assist in our growth. Many of the other biotech and pharmaceutical companies and academic institutions that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. We also may employ consultants or part-time and contract employees. There can be no assurance that these individuals are retainable. While we have been able to attract and retain skilled and experienced personnel and consultants in the past, no assurance can be given that we will be able to do so in the future.

We may become subject to the risk of product liability claims.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we or our partners commercialize any products. Human therapeutic products involve the risk of product liability claims and associated adverse publicity. Currently, the principal risks we face relate to patients in our clinical trials, who may suffer unintended consequences. Claims might be made by patients, healthcare providers or pharmaceutical companies or others. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates, if approved. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

1. decreased demand for our products due to negative public perception;

2. injury to our reputation;

3. withdrawal of clinical trial participants or difficulties in recruiting new trial participants;

4. initiation of investigations by regulators;

5. costs to defend or settle the related litigation;

6. a diversion of management's time and resources;

7. substantial monetary awards to trial participants or patients;

8. product recalls, withdrawals or labeling, marketing or promotional restrictions;

9. loss of revenues from product sales; and

10. the inability to commercialize any of our product candidates, if approved.

We may not have or be able to obtain or maintain sufficient and affordable insurance coverage to cover product liability claims, and without sufficient coverage any claim brought against us could have a materially adverse effect on our business, financial condition or results of operations. We run clinical trials through investigators that could be negligent through no fault of our own and which could affect patients, cause potential liability claims against us and result in delayed or stopped clinical trials. We are required by contractual obligations to indemnify collaborators, partners, third-party contractors, clinical investigators and institutions. These indemnifications could result in a material impact due to product liability claims against us and/or these groups. We currently carry at least $10.0 million in product liability insurance, which we believe is appropriate for our current clinical trials. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. We may also need to expand our insurance coverage as our business grows or if any of our product candidates is commercialized. We may not be able to maintain or increase insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

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

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA regulations, to provide accurate information to the FDA, to comply with manufacturing standards we have established, to comply with federal and state healthcare fraud and abuse laws and regulations, or to 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, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a Code of Business Conduct and Ethics, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant civil, criminal, and administrative sanctions, and our reputation.

In addition, during the course of our operations our directors, executives, and employees may have access to material, nonpublic information regarding our business, our results of operations, or potential transactions we are considering. We may not be able to prevent a director, executive, or employee from trading in our common stock on the basis of, or while having access to, material, nonpublic information. If a director, executive, or employee was to be investigated or an action was to be brought against a director, executive, or employee for insider trading, it could have a negative impact on our reputation and our stock price. Such a claim, with or without merit, could also result in substantial expenditures of time and money, and divert attention of our management team from other tasks important to the success of our business.

We may be vulnerable to disruption, damage and financial obligation as a result of system failures.

Despite the implementation of security measures, any of the internal computer systems belonging to us, our collaborators or our third-party service providers are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failure. Any system failure, accident or security breach that causes interruptions in our own, in collaborators' or in third-party service vendors' operations could result in a material disruption of our drug discovery and development programs. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our or our partners' regulatory approval efforts and significantly increase our costs in order to recover or reproduce the lost data. To the extent that any disruption or security breach results in a loss or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we may incur liability as a result, our drug discovery programs and competitive position may be adversely affected and the further development of our product candidates may be delayed. Furthermore, we may incur additional costs to remedy the damages caused by these disruptions or security breaches.

Our business involves the controlled use of hazardous materials and as such we are subject to environmental and occupational safety laws. Continued compliance with these laws may incur substantial costs and failure to maintain compliance could result in liability for damages that may exceed our resources.

Our research, manufacturing and development processes, and those of our third-party contractors and partners, involve the controlled use of hazardous materials. We and our manufacturers are subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. The risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result, and any such liability could exceed our resources. We are not insured against this type of liability. We may be required to incur significant costs to comply with environmental laws and regulations in the future, and our operations, business or assets may be materially adversely affected by current or future environmental laws or regulations or any liability thereunder.

Risks Related to Ownership of Our Common Stock

The market price of our common stock is likely to be highly volatile, and you could lose all or part of your investment.

Prior to our initial public offering (IPO), there was no public market for our common stock. The trading price of our common stock is likely to be volatile. Since our IPO, the trading price of our common stock has ranged from a low of approximately $5.75 to a high of approximately $48.38. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

1. adverse results or delays in clinical trials by us or our partners;

2. inability to obtain additional funding;

3. any delay in filing a BLA for any of our product candidates or by our partner's candidates and any adverse development or perceived adverse development with respect to the FDA's review of that BLA;

4. delays or cancellations of clinical programs by any of our partners, particularly those in later stages of development;

5. failure to successfully develop and commercialize our product candidates;

6. changes in laws or regulations applicable to our products;

7. inability to obtain adequate product supply for our product candidates, or the inability to do so at acceptable prices;

8. adverse regulatory decisions;

9. changes in the structure of healthcare payment systems;

10. introduction of new products or technologies by our competitors;

11. failure to meet or exceed product development or financial projections we provide to the public;

12. the perception of the pharmaceutical and biotechnology industry by the public, legislatures, regulators and the investment community;

13. announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;

14. disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;

15. additions or departures of key scientific or management personnel;

16. significant lawsuits, including patent or stockholder litigation;

17. changes in the market valuations of similar companies;

18. sales of our common stock by us or our stockholders in the future; and

19. trading volume of our common stock.

In addition, the stock market in general, and the NASDAQ Global Market and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

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

Based on information available to us as of December 31, 2018 our executive officers, directors, 5% stockholders and their affiliates beneficially owned, as a group, approximately 76.97% of our voting stock. Further John S. Stafford III, a former director of the Company, beneficially owns approximately 12.5% of our voting stock and his family members beneficially own approximately an additional 3.8% of our voting stock.

Therefore, our officers, directors and 5% stockholders and their affiliates, including Mr. Stafford, will have the ability to influence us through this ownership position and so long as they continue to beneficially own a significant amount of our outstanding voting stock. These stockholders may be able to determine all matters requiring stockholder approval and this concentration of ownership may deprive other stockholders from realizing the true value of our common stock. For example, these stockholders, acting together, 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, offers for our common stock or other transactions or arrangements that you may believe are in your best interest as one of our stockholders.

Raising additional funds through debt or equity financing may be dilutive or restrict our operations and raising funds through licensing may require us to relinquish rights to our technology or product candidates.

To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of those securities could result in substantial dilution for our current stockholders and the terms may include liquidation or other preferences that adversely affect the rights of our current stockholders. Existing stockholders may not agree with our financing plans or the terms of such financings. Moreover, the incurrence of debt financing could result in a substantial portion of our operating cash flow being dedicated to the payment of principal and interest on such indebtedness and could impose restrictions on our operations. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. In addition, if we raise additional funds through product development partnerships and licensing arrangements, it may be necessary to relinquish potentially valuable rights to our products or proprietary technologies, or grant licenses on terms that are not favorable to us. If we are unable to obtain additional funding on required timelines, we may be required to (1) seek collaborators for one or more of our product candidates at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available; (2) relinquish or license on unfavorable terms our rights to technologies or product candidates that we otherwise would seek to develop or commercialize ourselves; or (3) significantly curtail one or more of our research or development programs or cease operations altogether. Additional funding may not be available to us on acceptable terms, or at all.

The clinical development stage of our operations may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, developing our proprietary XmAb technology platform, identifying potential product candidates, and conducting preclinical studies and clinical trials. We have or are currently conducting early phase clinical trials for XmAb5871, XmAb7195, XmAb14045, XmAb13676, XmAb18087, and XmAb20717, but have not completed any late stage clinical trials for these or any other product candidate. We have not yet demonstrated our ability to successfully complete any pivotal clinical trials, obtain regulatory approvals, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we were further advanced in development of our product candidates.

In addition, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

If our internal control over financial reporting is not effective, we may not be able to accurately report our financial results or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in our stock price.

Effective internal control over financial reporting is necessary for us to provide reliable financial reports in a timely manner. If we fail to adequately staff our accounting and finance function to address the additional demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act of 2002, or fail to maintain adequate internal control over financial reporting, it could prevent our management from concluding our internal control over financial reporting is effective and impair our ability to prevent material misstatements in our financial statements, which could cause our business to suffer.

As a large accelerated filer, we are subject to additional internal control requirements of the Sarbanes-Oxley Act of 2002.

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

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market, the trading price of our common stock could decline. In addition a substantial number of shares of common stock are subject to outstanding options that are or will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner, we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. These sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

Pursuant to our 2013 equity incentive plan (2013 plan), subject to board approval, our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. The number of shares available for future grant under the 2013 plan will automatically increase each year by 4% of all shares of our capital stock outstanding as of December 31 of the prior calendar year, subject to the ability of our Board of Directors to take action to reduce the size of the increase in any given year. As of December 31, 2018, we had options to purchase 5,966,928 shares outstanding under our equity compensation plans. In addition, we are also authorized to grant equity awards, including stock options, to our employees, directors and consultants, covering up to 9,581,833 shares of our common stock, pursuant to our equity compensation plans. We plan to register the number of shares available for issuance or subject to outstanding awards under our equity compensation plans. If our Board of Directors elects to increase the number of shares available for future grant by the maximum amount each year, our stockholders may experience additional dilution, which could cause our stock price to fall.

U.S. federal income tax reform could adversely affect us.

In December 2017, U.S. federal tax legislation, commonly referred to as the Tax Cuts and Jobs Act (TCJA), was signed into law, significantly reforming the Internal Revenue Code of 1986, as amended (IRC). The TCJA, among other things, includes changes to U.S. federal tax rates, imposes significant additional limitations on the deductibility of interest, limits the deduction for net operating losses to 80% of current year taxable income, eliminates net operating loss carrybacks, allows for the expensing of capital expenditures, puts into effect the migration from a "worldwide" system of taxation to a territorial system and modifies or repeals many business deductions and credits. The overall impact of this tax reform is uncertain, and our business and financial condition could be adversely affected.

New legislation or regulation which could affect our tax burden could be enacted by any governmental authority. We cannot predict the timing or extent of such tax-related developments which could have a negative impact on our financial results. Additionally, we use our best judgment in attempting to quantify and reserve for these tax obligations. However, a challenge by a taxing authority, our ability to utilize tax benefits such as carryforwards or tax credits, or a deviation from other tax-related assumptions may cause actual financial results to deviate from previous estimates.

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

Our net operating loss (NOL) carryforwards generated in tax years ending on or prior to December 31, 2017, are only permitted to be carried forward for 20 years under applicable U.S. tax law. Under the TCJA, our federal NOLs generated in tax years ending after December 31, 2017, may be carried forward indefinitely, but the deductibility of such federal NOLs generated in tax years beginning after December 31, 2017, is limited. It is uncertain if and to what extent various states will conform to the TCJA. In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change U.S. tax attributes (such as research tax credits) to offset its post-change income or taxes may be limited. Upon analysis, we believe that we triggered an "ownership change" as a result of the sale of stock in connection with our IPO in December 2013 and our net operating loss and tax credit carryforwards have been limited as a result. It is also possible that we have in the past undergone, and in the future may undergo, additional ownership changes besides our IPO that could result in additional limitations on our net operating loss and tax credit carryforwards.

As a result, our pre-2018 NOL carryforwards may expire prior to being used, and our NOL carryforwards generated in 2018 and thereafter will be subject to a percentage limitation. Similar provisions of state tax law may also apply to limit our use of accumulated state tax attributes. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. As a result, if we earn net taxable income, we may be unable to use all or a material portion of our NOLs and other tax attributes, which could potentially result in increased future tax liability to us and adversely affect our future cash flows.

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

We have never declared or paid any cash dividend on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock.

Provisions in our amended and restated certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders or remove our current management.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management. These provisions include:

- authorizing the issuance of "blank check" preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- eliminating the ability of stockholders to call a special meeting of stockholders; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors, which is responsible for appointing the members of our management. In addition, we are subject to Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with an interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder, unless such transactions are approved by our Board of Directors. This provision could have the effect of delaying or preventing a change of control, whether or not it is desired by or beneficial to our stockholders. Further, other provisions of Delaware law may also discourage, delay or prevent someone from acquiring us or merging with us. Any provision of our certificate of incorporation or bylaws or Delaware law that has the effect of delaying or deterring change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Requirements associated with being a public reporting company will continue to increase our costs significantly, as well as divert significant company resources and management attention.

We have been subject to the reporting requirements of the Exchange Act and the other rules and regulations of the Securities and Exchange Commission (SEC) since December 2013. Effective for the year-ended December 31, 2016, we became a large accelerated filer and are subject to additional internal control and SEC reporting obligations. Compliance with the various reporting and other requirements applicable to public reporting companies requires considerable time, attention of management, and financial resources.

Further, the listing requirements of The NASDAQ Global Market require that we satisfy certain corporate governance requirements relating to director independence, distributing annual and interim reports, stockholder meetings, approvals and voting, soliciting proxies, conflicts of interest and a code of conduct. Our management and other personnel need to devote a substantial amount of time to ensure that we comply with all of these requirements. Moreover, the reporting requirements, rules and regulations increase our legal and financial compliance costs and also make some activities more time-consuming and costly. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or board committees or to serve as executive officers, or to obtain certain types of insurance, including directors' and officers' insurance, on acceptable terms.

In addition, being a public company could make it more difficult or more costly for us to obtain certain types of insurance, including directors' and officers' liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Any changes we make to comply with these obligations may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis, or at all.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal laboratory and administrative facilities are located in Monrovia, California, which is located in the greater Los Angeles region. We currently lease 48,000 square feet of laboratory and office space in Monrovia, California. The original lease was for 24,000 square feet under a lease that expires June 2020. In July 2017, we entered into an amended lease for an additional 24,000 square feet of space in the same building. The amended lease is for a 64-month term with an option to renew for an additional five years at then market rates. The lease terms for the original space were not amended. We also lease approximately 5,700 square feet of office space in San Diego, California. In June 2017, we entered into a new lease for 23,500 of additional space in San Diego. The new lease has a 61-month term beginning from August 2017 and includes an option to renew for an additional five years. We believe that our existing facilities are adequate to meet our current needs, and that suitable additional alternative spaces will be available to meet future needs on commercially reasonable terms.

Item 3. Legal Proceedings.

None.

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

Our common stock began trading on The NASDAQ Global Market on December 3, 2013 under the symbol "XNCR." Prior to such time, there was no public market for our common stock. On February 15, 2019, the closing price for our common stock as reported on the NASDAQ Global Market was $36.46.

Holders of Record

As of February 15, 2019, we had 56,292,169 shares of common stock outstanding held by approximately 200 stockholders of record. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Dividend Policy

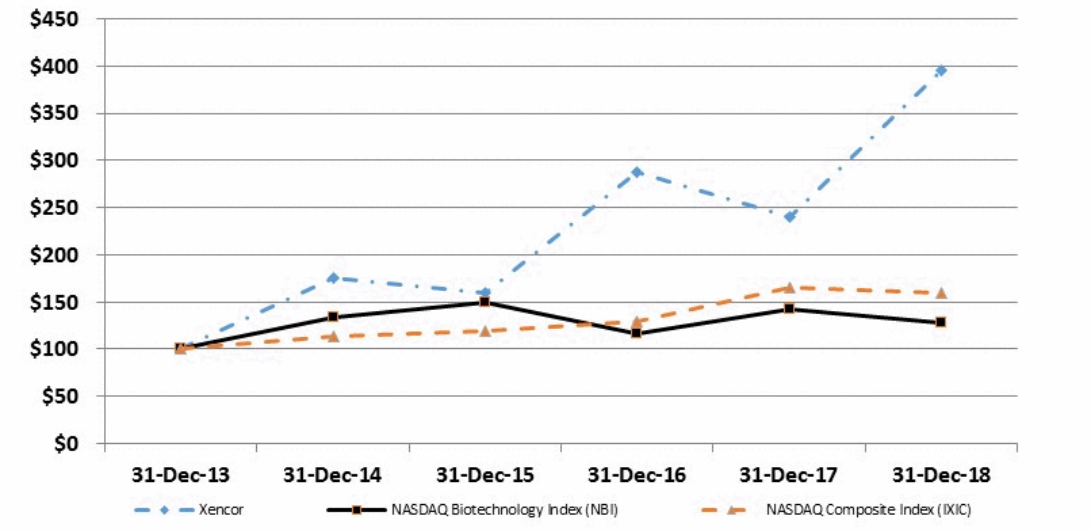
We have never declared or paid any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable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

Securities Authorized for Issuance Under Equity Compensation Plans

Information about our equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report.

Performance Graph

The following graph shows a comparison from December 31, 2013 through December 31, 2018 of the cumulative total return for our common stock, the NASDAQ Biotechnology Index (NBI) and the NASDAQ Composite Index (CCMP). The graph assumes an initial investment of $100 on December 31, 2013 and assumes reinvestment of the full amount of all dividends, if any. The comparisons in the graph are not intended to forecast or be indicative of possible future performance of our common stock.



The performance graph shall not be deemed to be incorporated by reference by means of any general statement incorporating by reference this Form 10-K into any filing under the Securities Act of 1933, as amended or the Exchange Act, except to the extent that we specifically incorporate such information by reference, and shall not otherwise be deemed filed under such acts.

Recent Sales of Unregistered Securities

There were no sales of unregistered securities during the year ended December 31, 2018.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. Selected Financial Data.

The selected financial data set forth below as of December 31, 2018 and 2017, and for the years ended December 31, 2018, 2017, and 2016, are derived from our audited financial statements included elsewhere in this report. This information should be read in conjunction with those financial statements and notes thereto and with "Management's Discussion and Analysis of Financial Condition and Results of Operations." The selected financial data set forth below as of December 31, 2016 and 2015 are derived from our audited financial statements that are contained in reports previously filed with the SEC, not included herein. Periods prior to 2018 have been revised to reflect the adoption of Accounting Standards Codification Topic 606 (ASC 606) related to changes in standards for revenue recognition. Revised financial data under ASC 606 as of and for the year ended December 31, 2014 have not been subjected to audit. Amounts are in thousands, except share and per share amounts.

	Year Ended December 31,				
	2018	2017 (As Revised)	2016 (As Revised)	2015 (As Revised)	2014 (As Revised)
Statement of Operations Data:					
Revenues	$ 40,603	$ 46,150	$ 109,020	$ 26,602	$ 7,700
Operating expenses:					
Research and development	97,501	71,772	51,872	34,140	18,516
General and administrative	22,472	17,501	13,108	11,960	7,461
Total operating expenses	119,973	89,273	64,980	46,100	25,977
Income (loss) from operations	(79,370)	(43,123)	44,040	(19,498)	(18,277)
Other income (expenses)					
Interest income	9,102	4,194	2,091	1,840	33
Interest expense	(16)	(13)	(21)	(13)	(9)
Other income (expense)	(125)	(7)	6	(1,081)	11
Total other income, net	8,961	4,174	2,076	746	35
Net income (loss) before income tax	(70,409)	(38,949)	46,116	(18,752)	(18,242)
Income tax expense (benefit)	—	(463)	991	—	—
Net income (loss) attributable to common stockholders	$ (70,409)	$ (38,486)	$ 45,125	$ (18,752)	$ (18,242)
Other comprehensive income (loss)					
Net unrealized gain (loss) on marketable securities available-for-sale, net of tax	837	(367)	(925)	(516)	—
Comprehensive income (loss)	$ (69,572)	$ (38,853)	$ 44,200	$ (19,268)	$ (18,242)
Net income (loss) per share attributable to common stockholders (1):					
Basic	$ (1.31)	$ (0.82)	$ 1.09	$ (0.48)	$ (0.58)
Diluted	$ (1.31)	$ (0.82)	$ 1.07	$ (0.48)	$ (0.58)
Weighted average shares of common stock used in computing net income (loss) per share attributable to common stockholders:					
Basic	53,942,116	46,817,756	41,267,329	39,015,131	31,390,631
Diluted	53,942,116	46,817,756	42,388,867	39,015,131	31,390,631

(1) See Note 1 to our Annual Financial Statements appearing elsewhere in this document for a description of the method used to calculate basic and diluted income (loss) per common share.

	As of December 31, (in thousands)				
	2018	2017 (As Revised)	2016 (As Revised)	2015 (As Revised)	2014 (As Revised)
Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 530,469	$ 363,328	$ 403,476	$ 193,321	$ 54,649
Working capital	261,874	158,229	50,720	54,883	52,205
Patents, licenses, and other intangible assets, net	11,969	11,148	10,362	9,971	9,116
Total assets	576,732	390,202	429,263	208,210	69,723
Deferred revenue	40,079	60,118	80,168	32,650	2,852
Total stockholders' equity	$ 521,681	$ 316,464	$ 337,933	$ 164,911	$ 62,929

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

You should read the following discussion and analysis together with "Item 6. Selected Financial Data" and our financial statements and related notes included elsewhere in this Annual Report. The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those expressed or implied in any forward-looking statements as a result of various factors, including those set forth under the caption "Item 1A. Risk Factors."

Overview

We are a clinical-stage biopharmaceutical company focused on discovering and developing engineered monoclonal antibody and other protein therapeutics to treat severe and life-threatening diseases with unmet medical needs. We are developing a suite of clinical-stage drug candidates from our proprietary XmAb® technology platforms that are designed to treat cancer, autoimmune and allergic diseases, and other conditions. In contrast to conventional approaches to antibody design, which focus on the portion of antibodies that interact with target antigens, our protein engineering efforts and the XmAb technologies are focused on the portion of the antibody that interacts with multiple segments of the immune system and controls antibody structure. This portion, referred to as the Fc domain, is constant and interchangeable among antibodies. Our engineered Fc domains, the XmAb technology, can be readily substituted for natural Fc domains.

We believe our Fc domains enhance antibody performance by, for example, increasing immune inhibitory activity, improving cytotoxicity, extending circulating half-life, or stabilizing novel antibody and other protein structures, while maintaining 99.5% identity in structure and sequence to natural antibodies. The most recent expansion of our platform is the XmAb bispecific Fc domains, which enable the rapid design and simplified development of antibodies, and other protein structures, that bind two or more different targets simultaneously. By designing antibodies and other protein molecules with improved function, we believe that our XmAb-engineered proteins offer innovative approaches to treating disease and potential clinical advantages over other treatments.

Our business strategy is based on the plug-and-play nature of the XmAb technology, allowing us to create new antibody drug candidates for our internal development or licensing, or to selectively license access to one or more of our XmAb technologies to pharmaceutical or biotechnology companies to use in developing their own proprietary antibodies with improved properties. Our protein engineering capabilities and the modular nature of our technology allows us to quickly identify and create multiple drug candidates for potential development. We have applied our XmAb technology to:

1. develop a pipeline of drug candidates from our bispecific Fc domains that we are developing on our own and with our partners,

2. develop XmAb antibody candidates from our other Fc technologies through early stage of development and then license them to partners for continued development, and

3. apply our Fc technologies to partner created antibodies. These transactions generally require very little effort on our part.

Our many partnerships and licensing transactions provide us with multiple revenue streams that help fund development of our product candidates and usually require limited resources or efforts from us. In 2018, we received $20.5 million in milestones from our partners and in February 2019, we announced a collaboration with Genentech for which we will receive an upfront payment of $120 million. There are currently 12 antibody product candidates in clinical trials that have been engineered with XmAb technology, two additional candidates have IND applications allowed by the FDA and will begin Phase 1 trials in 2019, and two more programs are in the preclinical stage of development.

In December 2018, the FDA approved the first antibody that incorporates our Fc technology. ALXN1210, now Ultomiris™, was approved by the United States Food and Drug Administration (FDA) for commercial marketing. Ultomiris is a complement inhibitor indicated for the treatment of adult patients with paroxysmal nocturnal hemoglobinuria (PNH), that is being developed by our partner Alexion, and incorporates our Xtend® Fc technology which allows for longer duration of action and less frequent dosing regimens compared to the previously approved therapy, Soliris®. There are five additional clinical candidates being advanced by licensees and development partners.

We have created a suite of compounds developed from our XmAb bispecific Fc domains that we wholly-own or are developing with our partners. These bispecific Fc domains are used to generate a broad array of novel drug candidates.

The initial bispecific candidates that we designed were created with our engineered heterodimer Fc domain, or bispecific Fc domain, and are dual-antigen targeting molecules, containing an anti-tumor associated antigen binding domain and a second binding domain targeted to CD3, an activating receptor on T-cells. We are advancing three CD3 bispecific candidates through clinical development: XmAb14045, XmAb13676, and XmAb18087.

- XmAb14045 is a bispecific antibody that targets CD123, an antigen on acute myeloid leukemia (AML) cells and leukemic stem cells, and CD3, a cytotoxic T-cell binding domain.

  It is being developed in collaboration with our partner Novartis and is being evaluated in a Phase 1 study in patients with relapsed or refractory acute myeloid leukemia (AML). We presented initial data from the study in December 2018 at ASH. The data presented indicated multiple complete responses had been achieved with weekly dosing of XmAb14045 in this heavily-pretreated patient population. 28% of evaluable AML patients achieved either a complete remission (CR) or CR with incomplete homological recovery (CRi) at the two highest dose levels studies to date.

  In February 2019, we received notice from the FDA placing the XmAb14045 study on partial clinical hold due to safety issues of cytokine release syndrome and pulmonary toxicities. Under the partial hold, existing subjects on the trial may continue to receive dosing; however, no new subjects may be enrolled pending FDA review of a clinical hold response.

  The partial hold was initiated following recent safety reports Xencor submitted to the FDA on two patient deaths that were considered at least possibly related to XmAb14045. One patient experienced cytokine release syndrome (CRS) after their first dose, the treatment of which was complicated by the patient's decision to withdraw care. One subject developed acute pulmonary edema following several doses of XmAb14045. Items to be addressed in the response include analysis of CRS cases per dosing level, efficacy information, and strategies to mitigate the observed toxicities.

  We are coordinating a response to the partial hold by the FDA with our partner, Novartis, and plan to continue development of XmAb14045 pending resolution of the partial hold.

- XmAb13676 is a bispecific antibody that targets CD20, an antigen on B-cell tumors, and CD3 for the treatment of B-cell malignancies. In February 2017, we dosed the first patient in an open-label, Phase 1, multiple-dose, dose escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb13676 in patients with B-cell malignancies. This program was also partnered with Novartis as part of our Novartis collaboration. In December 2018, as part of a strategic realignment of their pipeline, Novartis notified us of its decision to return its rights to XmAb13676, which is effective June 21, 2019. Under the Novartis Agreement, Novartis will be responsible for funding its share of the development costs for the program through June 2020. We plan to continue develop XmAb13676 as planned and expect to present initial data from the Phase 1 study in the second half of 2019.

- XmAb18087 is a bispecific that targets somatostatin receptor 2, or SSTR2, and the cytotoxic T-cell binding domain CD3 for the treatment of neuroendocrine tumors (NET) and gastrointestinal stromal tumors (GIST). In February 2018, we dosed our first patient in a Phase 1 study. XmAb18087 is our first CD3 bispecific to be evaluated in solid tumors. We expect to provide initial data from this study in the second half of 2019.

We are also advancing into clinical development a suite of tumor microenvironment activators that have been designed to promote tumor-selective T-cell activation by targeting multiple checkpoint or co-stimulatory receptors. We are advancing three TME activator candidates through clinical development: XmAb20717, XmAb22841, and XmAb23104:

- XmAb20717 simultaneously targets PD-1 and CTLA-4 and is being developed in broad oncology indications including solid tumors. In July 2018, we dosed the first patient in an open label Phase 1 dose-escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb20717 in patients with selected solid tumors. We expect to provide initial data from this study in the second half of 2019.

- XmAb23104 targets PD-1 and ICOS, an immune co-stimulatory receptor, and is being developed for multiple oncology indications. In October 2018, the FDA approved our IND application for the study of XmAb23104. We have planned an open-label, Phase 1, dose-escalation study to assess the safety, tolerability and preliminary anti-tumor activity of XmAb23104 in patients with selected solid tumors, and we plan to dose the first patient in the first half of 2019.

- XmAb22841 targets CTLA-4 and LAG-3, also an immune checkpoint receptor, and is being developed for multiple indications. We intend to advance XmAb22841 in combination with an anti-PD-1 drug to create a triple checkpoint blockade. In November 2018, the FDA approved our IND application for the study of XmAb22841. We have planned an open-label, Phase 1, dose-escalation study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb22841 in patients with selected solid tumors, and we plan to dose the first patient in the first half of 2019.

In 2018, we expanded our bispecific Fc platform with the design of our novel cytokine candidates. These cytokines are built on our bispecific Fc domain and have potency tuned to improve therapeutic index. These candidates also incorporate our Xtend technology for longer duration of action. Our first cytokine candidate is XmAb24306, an IL15/IL15-receptior alpha complex fused to a bispecific domain (IL15/IL15Ra-Fc). We believe that IL-15 cytokines, like XmAb24306, will be an optimal candidate for oncology combination therapies.

- XmAb24306 is currently in IND-enabling studies, and we will support Genentech's efforts to submit an IND for this candidate in the second half of 2019. We believe a broad combination development strategy will be critical to realize the potential of IL-15 cytokines. In February 2019, we entered into a research and license agreement with Genentech to develop and commercialize novel IL-15 cytokine therapeutics, whereby the companies will co-develop XmAb24306 and other potential IL-15 programs.

We have also created a suite of wholly-owned compounds using our Immune Inhibitor Fc Domain.

- XmAb5871 uses our XmAb Immune Inhibitor Fc Domain and targets CD19 with its variable domain, which is designed to inhibit the function of B cells, an important component of the immune system. We have completed Phase 2 clinical trials for XmAb5871 in three autoimmune diseases: SLE, IgG4-RD, and RA.

  In October 2018, we presented topline data from the Phase 2 study of XmAb5871 in patients with SLE at the American College of Rheumatology (ACR) annual meeting. The primary endpoint of the study was the proportion of patients with no loss of improvement (LOI) (i.e. maintenance of improvement) in the efficacy-evaluable population. Improvement was maintained at Day 225 by 42% of patients in the XmAb5871-treated arm, compared to 28.6% of patients in the placebo-treated arm, which did not meet the primary endpoint for statistical significance.

  The SLE study did meet secondary endpoints included evaluations of time to LOI. Patients in the efficacy-evaluable population treated with XmAb5871 experienced a statistically significant longer time to LOI, compared to placebo-treated patients, which represented a 76% improvement in median time to LOI and a 47% reduction in risk of LOI. XmAb5871 was well tolerated, and its safety profile was consistent with previous trials.

  In November 2017 we presented final data from the IgG4-RD Phase 2 trial at the ACR annual meeting.

  We have also completed an additional Phase 1 trial for a subcutaneous formulation of XmAb5871.

  We believe that the data from the studies of XmAb5871 in patients with SLE and IgG4-RD support further development in these indications and show the potential of XmAb5871 in other B-cell mediated autoimmune indications. We are seeking to partner XmAb5871 with a partner that has the infrastructure and resources to continue late-stage development of XmAb5871 and maximize the potential of this candidate for a broad set of patient populations.

- XmAb7195 uses our Immune Inhibitor Fc Domain and is being developed for the treatment of severe asthma and allergic diseases. In May 2016, we reported complete data from the Phase 1a trial with XmAb7195 treating subjects with high baseline IgE levels. In 2017 we announced data from a Phase 1b trial for XmAb7195 with a subcutaneous formulation. The data from the trial showed that subcutaneous administration of XmAb7195 was well tolerated and effective at reducing free and total IgE levels in subjects in the study. The results support subcutaneous delivery for future development. We are seeking a development partner for XmAb7195.

We have also created antibodies which we have licensed to other pharmaceutical and biotechnology companies for further development. These include MOR208, an antibody in Phase 3 development, which we licensed to MorphoSys, and a CD38 x CD3 bispecific antibody candidate which included XmAb13551 and antibody components used to assemble AMG424, which we licensed to Amgen. In 2017 MorphoSys advanced MOR208 into a Phase 3 clinical trial and MorphoSys has indicated plans to file a BLA in the U.S. in 2019. Amgen has started a Phase 1 study for AMG424 and also has a preclinical candidate, AMG509, that was created with our bispecific Fc domain, advancing into development. There are currently five other programs where we have licensed our technology to partners for use in development programs with their own molecules, and four of these programs are in clinical development. The most advanced is Ultomiris, formerly ALXN1210. In 2018, Alexion submitted marketing authorization applications for Ultomiris to the regulatory authorities in the U.S., Europe, and Japan for the treatment of adult patients with paroxysmal nocturnal hemoglobinuria (PNH), and in December 2018, Alexion received FDA approval.

We have over 750 issued and pending patents worldwide to protect our XmAb technology platform and XmAb drug candidates.

Key Company Milestones

Genentech Collaboration: In February 2019, we entered into a research and license agreement with Genentech (Genentech Agreement) to develop and commercialize novel IL-15 cytokine therapeutics that use our bispecific Fc technology, including XmAb24306, in the areas of cancer immunotherapy. We will jointly collaborate on the worldwide development of XmAb24306 and other IL-15 cytokine therapeutics, each a "Collaboration Product" with Genentech maintaining worldwide commercialization rights, subject to us having a co-promotion option in the U.S. We retained the right to perform clinical studies of Collaboration Products in combination with other therapeutic agents, subject to certain requirements. Genentech received a worldwide exclusive license to the XmAb24306 and other Collaboration Products.

Under the Genentech Agreement, we will receive an upfront payment of $120 million and are eligible to receive up to $160 million in clinical milestone payments for each Collaboration Product that advances to Phase 3 clinical trials. We are eligible to receive a 45% share of net profits from sales of XmAb24306 and other Collaboratio Products, while also sharing in the net losses at the same percentage rate and we will jointly share in 45% of development and commercialization costs. We will conduct a two-year joint research program with Genentech to discover additional programs around the IL-15 cytokine technology and will receive a $20 million milestone payment upon the initiation of each Phase 1 clinical trial for each new Collaboration Product developed under a research plan.

The Genentech Agreement is subject to customary closing conditions, including clearance under the Hart-Scott-Rodino Antitrust Improvements Act, and closing is expected to occur in the first quarter of 2019.

Novartis Collaboration. In June 2016, we entered into a Collaboration and License Agreement with Novartis (Novartis Agreement) to develop and commercialize bispecific and other Fc engineered antibody drug candidates using the Company's proprietary XmAb technologies and drug candidates. Under the Novartis Agreement, we licensed certain rights to our two lead bispecific candidates, XmAb14045 and XmAb13676, to Novartis including the right for Novartis to commercialize drug products from both programs in all worldwide territories outside the U.S. We are co-developing XmAb14045 worldwide and sharing development costs equally. We will also apply our bispecific technology to up to four Novartis identified antibodies and will also license other Fc technologies to Novartis. We received a non-refundable upfront payment of $150 million and are eligible to receive up to $2.1 billion in milestone payments under the Novartis Agreement.

In December 2018, Novartis notified us of its decision to return its rights with respect to the XmAb13676 program. Novartis will continue to fund its share of development costs for the XmAb13676 program through June 2020 and we plan to continue development of the program.

Licensing Partnerships. In addition to Novartis and Genentech collaborations, we have four other licensing partnerships for the licensing of our XmAb technology. These arrangements provide research funding, upfront payments and annual licensing fees in addition to potential milestones and contractual payments as our partners advance compounds that incorporate our technology through clinical development.

During 2018, Alexion submitted regulatory filings for Ultomiris in the U.S., European Union and Japan. In December 2018, Alexion received approval from the FDA for the treatment of adult patients with PNH. We received a total of $20 million in regulatory milestone payments from Alexion for Ultomiris in 2018. In November 2018, Amgen began preclinical studies for AMG509, for intended clinical development for patients with prostate cancer, and we received a $0.5 million milestone payment.

Bispecific Fc programs. We continue to advance our pipeline with bispecific Fc antibodies and cytokines that incorporate our XmAb bispecific Fc domain, which allow us to create molecules that bind to multiple different targets. By using an Fc as an integral part of the molecule, we impart the advantages of natural antibody features, including enabling it to retain or enhance favorable half-life, simplifying manufacturing processes and modulating potency to reduce toxicity.

We have initiated the Phase 1 trials for four bispecific oncology candidates: XmAb14045, XmAb13676, XmAb18087, and XmAb20717. We have received FDA approval of our IND applications for our next two candidates, XmAb22841 and XmAb23104, and we will be initiating Phase 1 trials in the first half of 2019. We are in preclinical development for our first bispecific Fc domain cytokine candidate, XmAb24306, and we plan to submit an IND for this candidate in the second half of 2019.

In March 2018, we completed the sale of 8,395,000 shares of common stock in an underwritten follow-on financing and raised net proceeds of $245.5 million after deducting underwriters' commissions and expense of the sale.

Financial Operations Overview

Revenues

Our revenues to date have been generated primarily from our collaboration agreements and our technology licensing agreements. Revenue recognized from our collaboration agreements includes non-refundable upfront payments and milestone payments while revenue from our technology licensing agreements includes upfront payments, annual maintenance fees, option payments to obtain commercial licenses and milestone payments. Since our inception through December 31, 2018, we have generated $266.2 million in revenues under the various product development partnership and technology license arrangements. Several of our product development partnership and technology license agreements provide us the opportunity to earn future milestone payments, royalties on product sales and option exercise payments.

Summary of Collaboration and Licensing Revenue by Partner

The following is a comparison of collaboration and licensing revenue for the years ended December 31, 2018, 2017 and 2016 (in millions):

	Year Ended December 31,		
	2018	2017 (As Revised)	2016 (As Revised)
Amgen	$ 0.6	$ 10.0	$ 31.2
Alexion	20.0	—	5.0
CSL	—	3.5	—
MorphoSys	—	12.5	—
Novo Nordisk	—	—	2.7
Novartis	20.0	20.1	69.9
Other	—	0.1	0.2
Total	$ 40.6	$ 46.2	$ 109.0

Research and Development Expenses

Research and development expenses consist primarily of salaries, benefits, stock-based compensation and related personnel costs, supplies, facility costs and preclinical testing costs, clinical trial costs and fees paid to external service providers. External service providers include contract research organizations (CRO) and contract manufacturing organizations (CMO) to conduct clinical trials, manufacturing and process development, IND-enabling toxicology testing and formulation of clinical drug supplies. We expense research and development expenses as incurred. We account for nonrefundable advance payments for goods and services that will be used in future research and development activities as expense when the service has been performed or when the goods have been received. We estimate contract manufacturing, preclinical study and clinical trial expenses based on the services performed pursuant to the contracts with manufacturing, research institutions and clinical research organizations that manufacture and conduct and manage preclinical studies and clinical trials on our behalf based on the actual time and expenses incurred by them. We accrue expenses related to clinical trials based on the level of patient enrollment and activity according to the related agreement. We monitor patient enrollment levels and related activity to the extent reasonably possible and adjust estimates accordingly. Our estimates of clinical trial expense have fluctuated on a period-to-period basis due to changes in the stage of the clinical trials and patient enrollment levels. We expect to experience a continuing pattern of fluctuations in clinical trial expenses as current clinical trials are completed and as we initiate additional and later stage clinical trials. To date, we have not experienced significant differences between our periodic estimates of clinical trial expense and the actual costs incurred. We expect changes in future clinical trial expenses to be driven by changes in service provider costs and changes in clinical stage and patient enrollment. We have incurred a total of $466.1 million in research and development expenses from inception through December 31, 2018.

We expect that our research and development expenses may increase over spending levels in recent years if we are successful in advancing XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, XmAb24306, or any of our other preclinical programs into advanced stages of clinical development. The process of conducting preclinical studies and clinical trials necessary to obtain regulatory approval is costly and time-consuming. We or our partners may never succeed in achieving marketing approval for any of our product candidates. Numerous factors may affect the probability of success for each product candidate, including preclinical data, clinical data, competition, manufacturing capability, approval by regulatory authorities and commercial viability.

Our research and development operations are conducted such that design, management and evaluation of results of all of our research and development is performed internally, while the execution of certain phases of our research and development programs, such as toxicology studies in accordance with Good Laboratory Practices (GLP), and manufacturing in accordance with current Good Manufacturing Practices (cGMP), is accomplished using CROs and CMOs. We account for research and development costs on a program-by-program basis except in the early stages of research and discovery, when costs are often devoted to identifying preclinical candidates and improving our discovery platform and technologies, which are not necessarily allocable to a specific development program. We assign costs for such activities to distinct projects for preclinical pipeline development and new technologies. We allocate research management, overhead, commonly used laboratory supplies and equipment, and facility costs based on the number of full-time research personnel allocated to each program.

The following is a comparison of research and development expenses for the years ended December 31, 2018, 2017 and 2016 (in millions):

	Year Ended December 31,		
	2018	2017	2016
Product programs:			
XmAb5871 programs	$ 23.0	$ 20.3	$ 17.3
XmAb7195 program	0.8	3.4	7.5
Bispecific programs			
CD-3	23.1	21.3	17.9
TME checkpoints	33.1	20.7	5.8
Cytokines	7.7	—	—
Subtotal Bispecific programs	63.9	42.0	23.7
Other, research and early stage programs	9.8	6.1	3.4
Total research and development expenses	$ 97.5	$ 71.8	$ 51.9

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation related to our executive, finance, business development and support functions. Other general and administrative expenses include rent and utilities, travel expenses and professional fees for auditing, tax and legal services.

Other Income, Net

For the years ended December 31, 2018, 2017 and 2016, other income, net consists primarily of interest income from our investments during the years.

Critical Accounting Policies, Significant Judgments 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 accounting principles generally accepted in the United States (GAAP). The preparation of our financial statements in conformity with GAAP requires our management to make estimates and assumptions that affect the amounts and disclosures reported in the financial statements and accompanying notes. Actual results could differ materially from those estimates. Our management believes judgment is involved in determining revenue recognition, the fair value-based measurement of stock-based compensation, the fair value estimate of marketable securities, the capitalization and recoverability of intellectual property costs, valuation of deferred tax assets and accruals. Our management evaluates estimates and assumptions as facts and circumstances dictate. As future events and their effects cannot be determined with precision, actual results could differ from these estimates and assumptions, and those differences could be material to the financial statements. If our assumptions change, we may need to revise our estimates, or take other corrective actions, either of which may also have a material adverse effect on our statements of operations, liquidity and financial condition.

While our significant accounting policies are described in more detail in Note 1 to our financial statements included elsewhere in this Annual Report on Form 10-K, we believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our financial statements.

Revenue Recognition

We have, to date, earned revenue from research and development collaborations, which may include research and development services, licenses of our internally-developed technologies, licenses of our internally-developed drug candidates, or combinations of these.

The terms of our license and research and development and collaboration agreements generally include non-refundable upfront payments, research funding, co-development reimbursements, license fees and, milestone and other contingent payments to us for the achievement of defined collaboration objectives and certain clinical, regulatory and sales-based events, as well as royalties on sales of any commercialized products.

The terms of our licensing agreements include non-refundable upfront fees, annual licensing fees, and contractual payment obligations for the achievement of pre-defined preclinical, clinical, regulatory and sales-based events by our partners. The licensing agreements also include royalties on sales of any commercialized products by our partners.

As described in "Recent Accounting Pronouncements" in the notes to the financial statements included in this Annual Report on Form 10-K, effective January 1, 2018, the Company adopted ASC 606. Subsequent to the adoption, the Company recognizes revenue through the five-step process in accordance with ASC 606 Revenue Recognition when control of the promised goods or services is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

The Company used the full retrospective method and as a result the Company has revised its comparative financial statements for the prior period as if ASC 606 had been in effect for that period.

The most significant changes to revenue recognition under ASC 606 relate to the timing of revenue recognized for arrangements that include licensing of our technologies. Under ASC 606 revenue related to licensing of access to our technologies is recognized at inception of the agreement, generally the effective date of the agreement. For existing licensing arrangements, the effect of ASC 606 is to shift revenue to earlier periods. Approximately $11.3 million of licensing revenue that was being recognized over the five-year period 2016-2021 is being recognized in the second quarter of 2016.

The other significant change under ASC 606 relates to the timing of collaboration revenue when the Company completes its performance obligations for delivery of a drug candidate to its collaboration partners after applying its technologies. For existing collaborations, the effect of ASC 606 is to accelerate revenue recognition to earlier periods. Approximately $6.25 million of collaboration revenue recognized in 2017 and 2018 under historical accounting guidance is being recognized in 2016 under ASC 606. An additional $20.5 million of collaboration revenue that would be recognized in 2018 is being recognized in 2017.

Capitalized Intellectual Property Costs

We capitalize and amortize third-party intellectual property costs such as amounts paid to outside patent counsel for filing, prosecuting and obtaining patents for our internally developed technologies and product candidates, to the extent such patents are deemed to have probable future economic benefit. We also capitalize amounts paid to third parties for licenses that we acquire for intellectual property or for research and development purposes. The net capitalized patents, licenses and other intangible assets as of December 31, 2018 and 2017 was $12.0 million and $11.1 million, respectively. We believe that these costs should be capitalized as the intellectual property portfolio is the underlying property right to our technologies and product candidates and supports the upfront payments, licensing fees, and milestone payments made by our collaboration partners for licensing our technologies and product candidates.

We begin amortization of capitalized patent costs during the period that we obtain a patent relating to the capitalized cost over the shorter of the patent life or the estimated economic useful life. Capitalized licensing costs are amortized beginning in the period that access to the license or technology is available and is amortized over the shorter of the license term or the estimated economic useful life of the licensed asset. Such amortization is reflected in the General and Administrative section of our Statement of Comprehensive Income (Loss).

On a regular basis we review the capitalized intellectual property portfolio and determine if there have been changes in the scientific or patent landscape that leads us to decide to abandon an in-process patent application or abandon a previously issued patent. While we confer with outside patent counsel, the decision to continue prosecuting certain patent claims or abandon other claims are made by us based on our judgment and existing knowledge of our technology, current U.S. and foreign patent authority rulings and expected rulings, and scientific advances and patent filings by competitors operating in our technology or drug development field. We record an expense for the write-off of capitalized intangible assets in the period that the decision to abandon a claim or license is made. We also review the carrying value of capitalized licensing costs on a regular basis to determine if there have been any changes to the useful life or estimated amortization period over which the costs should be amortized. We recorded a charge for abandoned intangible assets of $0.2 million, $0.4 million and $0.4 million for the years ended December 31, 2018, 2017 and 2016, respectively. Such charges are reflected in the General and Administrative section of our Statement of Comprehensive Income (Loss).

We determine if there has been an impairment of our intangible assets which include the capitalized patent and licensing costs whenever events such as recurring operating losses or changes in circumstances indicate that the carrying amount of the assets may not be recoverable.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing contracts and purchase orders, reviewing the terms of our license agreements, communicating with our applicable personnel to identify services that have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual cost. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued expenses as of each balance sheet date based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. Examples of estimated accrued research and development expenses include fees to:

- contract research organizations and other service providers in connection with clinical studies;
- contract manufacturers in connection with the production of and testing of clinical trial materials; and
- vendors in connection with preclinical development activities.

We base our expenses related to clinical studies on our estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and contract research organizations that conduct and manage clinical studies on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows and expense recognition. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing these costs, we estimate the time period over which services will be performed for which we have not been invoiced and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual accordingly. Our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in our reporting changes in estimates in any particular period.

Income Taxes

Deferred tax assets and liabilities are determined based on differences between the financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized as income in the period that such tax rate changes are enacted. The measurement of a deferred tax asset is reduced, if necessary, by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized. Financial statement recognition of a tax position taken or expected to be taken in a tax return is determined based on a more-likely-than not threshold of that position being sustained. If the tax position meets this threshold, the benefit to be recognized is measured as the largest amount that is more than 50% likely to be realized upon ultimate settlement. Our policy is to record interest and penalties related to uncertain tax positions as a component of income tax expense. The Company has concluded that there are no material uncertain tax positions and has not recorded an income tax expense or liability for uncertain tax positions as of December 31, 2018.

On December 22, 2017, the "Tax Cuts and Jobs Act" (TCJA) was enacted into law, which beginning in 2018, made several changes to U.S. corporate income tax provisions. We have identified changes in the TCJA which will have a material effect on our tax provision and future tax obligations. The TCJA reduced the U.S. corporate rate from a maximum rate of 35% to 21% effective January 1, 2018. The effect of this change was to reduce the potential future tax benefits from our deferred tax assets by $19.6 million that we had as of December 31, 2017. We have deferred income taxes as of December 31, 2017 from deferred revenue and net operating loss carryforwards and the reduction in the U.S. rate reduced the future value of these assets. The TCJA also changed the potential benefit of net operating losses incurred after January 1, 2018. The new law eliminated the ability to carryback net operating losses to prior years and also limited the amount of net operating losses incurred post January 1, 2018 that could be used to offset taxable income to 80% of the taxable income generated in any one year.

The other material change in our tax provision from the TCJA is elimination of the U.S. corporate alternative minimum tax (AMT) system and allowance for a tax refund for AMT credit carryovers as of December 31, 2017. We recorded an income tax receivable related to AMT credit carryovers of $1.6 million as of December 31, 2018.

We recorded net deferred tax assets of $82.5 million as of December 31, 2018, which was fully offset by a valuation allowance due to uncertainties surrounding our ability to realize these tax benefits. The deferred tax assets are primarily comprised of deferred revenue, federal and state tax net operating loss (NOL) carryforwards and research and development tax credit carryforwards. As of December 31, 2018, we had cumulative net operating loss carryforwards for federal income tax purposes of approximately $191.2 million; $102.6 million of such losses were incurred prior to December 31, 2017 and $88.6 million were incurred in the year December 31, 2018. We also had available tax credit carryforwards of $14.9 million for federal tax purposes. We had cumulative state tax loss carryforwards at December 31, 2018 of $138.9 million, and available state tax credit carryforwards of approximately $8.2 million, which can be carried forward to offset future taxable income, if any.

Our federal net operating loss carryforwards incurred prior to January 1, 2018, expire starting in 2026, state net operating losses expire starting in 2031, and federal tax credit carryforwards expire starting in 2019. Upon analysis, we believe that our net operating losses and tax credits were subject to an annual limitation due to the ownership change provisions by the Internal Revenue Code of 1986 under Section 382 and similar state provisions. As a result of the limitations under Section 382, our federal and state tax operating loss and tax credit carryforwards have been limited.

No income tax expense or benefit was recorded for the year ended December 31, 2018. We recorded a net benefit of $0.5 million, related to federal and state AMTs, for the year ended December 31, 2017, and we recorded a tax expense of $1.0 million, related to federal and state AMTs for the year ended December 31, 2016.

Valuation of Stock-Based Compensation

We record the fair value of stock options and shares issued under our Employee Stock Purchase Plan (ESPP) to employees as of the grant date as compensation expense over the service period, which is generally the vesting period. For non-employees, we also record the fair value of stock options as of the grant date as compensation expense over the service period. We then periodically re-measure the awards to reflect the current fair value at each reporting period until the non-employee completes the performance obligation or the date on which a performance commitment is reached. Expense is recognized over the related service period.

We calculate the fair value of stock-based compensation awards using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model requires the use of subjective assumptions, including volatility of our common stock, the expected term of our stock options, the risk free interest rate for a period that approximates the expected term of our stock options and the fair value of the underlying common stock on the date of grant.

Common Stock Options Fair Value

We recognize stock-based compensation expense in accordance with the provisions of ASC Topic 718, *Compensation—Stock Compensation*. The use of a Black-Scholes model requires us to apply judgment and make assumptions and estimates that include the following:

- *Expected Volatility*—Volatility is a measure of the amount by which a financial variable such as a share price has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. As we do not yet have sufficient history of our own volatility, we have identified several public entities of similar size, complexity and stage of development and calculate the historical volatility using the volatility of these companies.

- *Expected Dividend Yield*—We have never declared or paid dividends and have no plans to do so in the foreseeable future.

- *Risk-Free Interest Rate*—This is the U.S. Treasury rate for the week of each option grant during the year, having a term that most closely resembles the expected life of the option.

- *Expected Term*—This is the period of time that the options granted are expected to remain unexercised. Options granted have a maximum term of ten years and we have estimated the expected life of the option term to be between five and six years. We use a simplified method to calculate the average expected term for employee awards.

Results of Operations

Comparison of the Year Ended December 31, 2018 and 2017

The following table summarizes our results of operations for the years ended December 31, 2018 and 2017 (in millions):

	Year ended December 31,		
	2018	2017 (As Revised)	Change
Revenues:			
Research collaboration	$ 20.1	$ 20.1	$ 0.0
Milestone	20.5	26.0	(5.5)
Licensing	—	0.1	(0.1)
Total revenues	40.6	46.2	(5.6)
Operating expenses:			
Research and development	97.5	71.8	25.7
General and administrative	22.5	17.5	5.0
Total operating expenses	120.0	89.3	30.7
Other income, net	9.0	4.2	4.8
Income tax benefit	—	(0.5)	0.5
Net loss	$ (70.4)	$ (38.5)	$ (32.0)

Revenues

Research collaboration revenues in 2018 and 2017 represent revenue recognized under our Novartis Agreement.

Milestone and contingent payments decreased by $5.5 million in 2018 over 2017 amounts primarily due to receiving contractual milestones in 2017 from Amgen, CSL and MorphoSys compared to contractual milestones received from Alexion in 2018.

Research and Development Expenses

The following table summarizes our research and development expenses for the years ended December 31, 2018 and 2017 (in millions):

	Year Ended December 31,		
	2018	2017	Change
Product programs:			
XmAb5871 programs	$ 23.0	$ 20.3	$ 2.7
XmAb7195 program	0.8	3.4	(2.6)
Bispecific programs:			
CD-3	23.1	21.3	1.8
TME checkpoints	33.1	20.7	12.4
Cytokines	7.7	—	7.7
Subtotal Bispecific programs	63.9	42.0	21.9
Other, research and early stage programs	9.8	6.1	3.7
Total research and development expense	$ 97.5	$ 71.8	$ 25.7

Research and development expenses increased by $25.7 million in 2018 over 2017 amounts as we continue to expand our pipeline of bispecific Fc domain candidates. Increased spending on our bispecific TME checkpoint candidates and our IL-15 cytokine program was the primary driver for increased spending. Increased spending on our XmAb5871 program and early discovery research programs was partially offset by reduced spending on our XmAb7195 program.

General and Administrative Expenses

General and administrative expenses increased by $5.0 million in 2018 over 2017 amounts primarily due to an increase in facility costs, staffing and stock-based compensation costs.

Other Income (Expense), Net

Other income, net increased by $4.8 million in 2018 over 2017 amounts reflecting additional interest income earned on our investments in marketable securities, which is due to higher investment balances as a result of our March 2018 financing.

Comparison of the Year Ended December 31, 2017 and 2016

The following table summarizes our results of operations for the year ended December 31, 2017 and 2016 (in millions):

	Year Ended December 31,		
	2017 (As Revised)	2016 (As Revised)	Change
Revenues:			
Research collaboration	$ 20.1	$ 34.2	$ (14.1)
Milestone	26.0	5.0	21.0
Licensing	0.1	69.8	(69.7)
Total revenues	46.2	109.0	(62.8)
Operating expenses:			
Research and development	71.8	51.9	19.9
General and administrative	17.5	13.1	4.4
Total operating expenses	89.3	65.0	24.3
Other income, net	4.2	2.1	2.1
Income tax expense (benefit)	(0.5)	1.0	(1.5)
Net income (loss)	$ (38.4)	$ 45.1	$ (83.5)

Revenues

Research collaboration revenues decreased by $14.2 million in 2017 over 2016 amounts primarily due to revenue recognized under our Novartis collaboration in 2017 compared to revenue recognized under our Novartis and Amgen collaborations in 2016.

Milestone and contingent payments increased by $21.0 million in 2017 over 2016 amounts primarily due to receiving contractual milestones in 2017 from Amgen, CSL, and MorphoSys, compared to contractual milestones received from Alexion in 2016.

Licensing revenue decreased by $69.7 million in 2017 over 2016 amounts due to revenue reported under our Novartis collaboration in 2016.

Research and Development Expenses

The following table summarizes our research and development expenses for the years ended December 31, 2017 and 2016 (in millions):

	Year Ended December 31,		
	2017	2016	Change
Product programs:			
XmAb5871 programs	$ 20.3	$ 17.3	$ 3.0
XmAb7195 program	3.4	7.5	(4.1)
Bispecific programs:			
CD-3	21.3	17.9	3.4
TME checkpoints	20.7	5.8	14.9
Cytokines	—	—	—
Subtotal Bispecific programs	42.0	23.7	18.3
Other, research and early stage programs	6.1	3.4	2.7
Total research and development expense	$ 71.8	$ 51.9	$ 19.9

Research and development expenses increased by $19.9 million in 2017 over 2016 amounts as we continue to expand our pipeline of bispecific candidates. The primary increases in research and development spending were on our bispecific TME checkpoint and CD-3 programs. Increased spending on our XmAb5871 program and early discovery research programs was partially offset by reduced spending on our XmAb7195 program.

General and Administrative Expenses

General and administrative expenses increased by $4.4 million in 2017 over 2016 amounts primarily due to an increase in facility costs, staffing and stock-based compensation costs.

Other Income (Expense), Net

Other income, net increased by $2.1 million in 2017 over 2016 amounts, reflecting additional interest income earned on our investments in marketable securities.

Liquidity and Capital Resources

Since our inception, our operations have been primarily financed through proceeds from our public offering, private sales of our equity, convertible notes and payments received under our collaboration and development partnerships and licensing arrangements. We have devoted our resources to funding research and development programs, including discovery research, preclinical and clinical development activities.

We have incurred substantial operating losses since our inception, and we expect to continue to incur operating losses into the foreseeable future as we advance the ongoing development of our bispecific Fc domain pipeline of product candidates, XmAb14045, XmAb13676, XmAb18087, XmAb20717, XmAb22841, XmAb23104, and XmAb24306, evaluate opportunities for the potential clinical development of our other preclinical programs, and continue our research efforts.

In March 2018, we finalized the sale of 8,395,000 shares of common stock at an offering price of $31.00 per share in an underwritten offering, resulting in net proceeds of approximately $245.5 million, after deducting underwriters' commissions and offering expenses.

In July 2016 we received a $150.0 million upfront payment in connection with our collaboration with Novartis. On December 6, 2016, we finalized the sale of 5,272,750 shares of common stock at an offering price of $24.00 per share in an underwritten offering, resulting in net proceeds of approximately $119.3 million, after deducting underwriting discounts, commissions and offering expenses.

On September 19, 2016, we entered into an Equity Distribution Agreement (the Distribution Agreement) with Piper Jaffray & Co (Piper Jaffray) pursuant to which we may sell from time to time, at our option, up to an aggregate of $40 million of common stock through Piper Jaffray as sales agent. The issuance and sale of these shares by Xencor under the Distribution Agreement will be pursuant to our shelf registration statement on Form S-3 (File No.333-213700) declared effective by the SEC on October 5, 2016.

To date, we have not sold any shares under the Distribution Agreement.

At December 31, 2018, we had $530.5 million of cash, cash equivalents and marketable debt securities compared to $363.3 million at December 31, 2017. We expect to continue to receive additional payments from our collaborators for research and development services rendered, additional milestone, contingent payments, opt-in and annual license maintenance payments. We expect to close the Genentech transaction in the first quarter of 2019, for which we will receive a $120 million non-refundable upfront payment 30 days after the effective date. Our ability to receive milestone payments and contingent payments from our partners is dependent upon either our ability or our partners' abilities to achieve certain levels of research and development activities and is therefore uncertain at this time.

Funding Requirements

We have not generated any revenue from product sales and do not expect to do so until we obtain regulatory approval and commercialize one or more of our product candidates. As we are currently in the early clinical stages of development, it will be some time before we expect to achieve this and it is uncertain that we ever will. We expect that our operating expenses will continue to increase in connection with ongoing as well as additional planned clinical and preclinical development of product candidates in our pipeline. We expect to continue our collaboration arrangements and will look for additional collaboration and licensing opportunities.

Although it is difficult to predict our funding requirements, based upon our current operating plan, we expect that our existing cash, cash equivalents and marketable securities and certain potential milestone payments will fund our operating expenses and capital expenditure requirements beyond 2024. We have based these estimates on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect.

Cash Flows

The following table sets forth the primary sources and uses of cash and cash equivalents for each of the periods presented below (in thousands):

	Year Ended December 31,		
	2018	2017 (As Revised)	2016 (As Revised)
Net cash provided by (used in):			
Operating activities	$ (79,756)	$ (33,597)	$ 95,238
Investing activities	(164,767)	31,864	(214,274)
Financing activities	254,241	3,733	120,974
Net increase in cash and cash equivalents	$ 9,718	$ 2,000	$ 1,938

Operating Activities

Net cash used in operating activities for the year ended December 31, 2018 and December 31, 2017, reflects operating expenses primarily for advancing our bispecific candidates and clinical trials for XmAb5871 during the year.

Net cash provided by operating activities for the year ended December 31, 2016 reflects the upfront payment of $150.0 million received under our Novartis collaboration and a milestone payment from Alexion in excess of operating expenses during the year.

Investing Activities

Investing activities consist primarily of proceeds from maturities of marketable securities offset by purchases of marketable securities available-for-sale, acquisition of intangible assets and purchases of property and equipment. In 2018, we purchased $155.7 million in marketable securities, net of $222.1 million of proceeds from sale and maturities. In 2017 we received $39.2 million in marketable securities, net of $76.5 million of purchases. In 2016, we invested $210.6 million in marketable securities net of $105.5 million of sales and maturities. We acquired $1.9 million, $2.0 million and $1.5 million of intangible assets in the years ended December 31, 2018, 2017 and 2016, respectively. We purchased $7.2 million, $5.3 million and $1.5 million of capital equipment for the years ended December 31, 2018, 2017 and 2016 respectively. The increase in capital expenditure in 2018 compared to 2017 and 2016 is primarily due to additional purchase of research and development equipment.

Financing Activities

Net cash provided by financing activities during the year ended December 31, 2018 consists primarily of net proceeds from the follow-on equity offering and cash from stock option exercises and the sale of shares under the ESPP.

Net cash provided by financing activities during the year ended December 31, 2017 consists primarily of cash from stock option exercises and the sale of shares under the ESPP.

Net cash provided by financing activities during the year ended December 31, 2016 consists primarily of net proceeds from the follow-on equity offering and cash from stock option exercises and the sale of shares under the ESPP.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations at December 31, 2018 (in thousands):

	Payments due by period				
	Total	Less than 1 year	1 - 3 Years	3 - 5 Years	More than 5 years
Operating lease obligation relating to facilities (1)	$ 8,542	$ 2,752	$ 5,790	$ —	$ —

(1) Consists of operating leases on our corporate headquarters in Monrovia and on our San Diego offices encompassing 48,000 square feet and 24,000 square feet that expire in September 2022 and August 2022 respectively.

We are obligated to make future payments to third parties under in-license agreements, including sublicense fees, royalties, and payments that become due and payable on the achievement of certain development and commercialization milestones. We have also entered into agreements with third party vendors which will require us to make future payments upon the delivery of goods and services in future periods.

In February 2015, we entered into a license agreement with BIO-TECHNE Corporation for a non-exclusive license to certain antibody technology including monoclonal antibodies which recognize human somatostatin reception 2. The variable domain of this antibody is incorporated in our XmAb18087 drug candidate. Under this license agreement, we may be required to make $3.8 million in additional contingent payments which include $800,000 of clinical milestones and $3.0 million of regulatory milestones, in addition to royalties upon commercial sales of products of less than 1%. We made an upfront payment of $200,000 in connection with this license and made a Phase 1 milestone payment of $100,000 in 2018. We did not make any milestone payments in 2017 or 2016.

In January 2019, we entered into a second agreement with BIO-TECHNE which agreement is effective February 2018 for a non-exclusive license to certain recombinant monoclonal antibody reactive with human programmed death protein, PD-1 antibody. We expect to use this protein in certain of our oncology drug candidates. Under this license agreement, we may be required to make $22.0 million in additional contingent payments which include $1.5 million of clinical milestones, $4.5 million of regulatory milestones and milestones on the achievement of certain sales of $16.0 million, in addition to royalties upon commercial sales of products of 1%. We made an upfront payment in connection with this license in 2019 and did not make any payments in 2018, 2017 or 2016

In November 2015, we entered into a worldwide exclusive commercial license agreement with Selexis SA to develop and commercialize products produced from the Selexis cell line that was manufactured in connection with our XmAb14045 drug candidate. We made an upfront payment of 50,000 Swiss Francs (CHF) in connection with the license and may be required to make CHF 1.7 million in additional contingent obligations which include CHF 500,000 in development milestones, CHF 400,000 in regulatory milestones and CHF 800,000 in sales milestones, in addition to royalties upon commercial sales of products of less than 1%. During 2016, we made a CHF 100,000 milestone payment in connection with an IND filing. There were no milestone payments made in 2018 or 2017.

In February 2016, we entered into a worldwide exclusive commercial license agreement with Selexis SA to develop and commercialize products produced from the Selexis cell line that was manufactured in connection with our XmAb13676 drug candidate. In connection with the license we may be required to make CHF 1.7 million in additional contingent obligations which include CHF 500,000 in development milestones, CHF 400,000 in regulatory milestones and CHF 800,000 in sales milestones, in addition to royalties upon commercial sales of products of less than 1%. During 2016, we made a CHF 100,000 milestone payment in connection with an IND filing. There were no milestone payments made in 2018 or 2017.

In December 2017, we entered into worldwide exclusive commercial license agreements with Selexis to develop and commercialize products produced from the Selexis cell line that was manufactured for each of our bispecific drug candidates: XmAb18087, XmAb20717, XmAb22841 and XmAb23104. The terms for each agreement is identical and for each licensed cell line we may be required to make up to CHF 1.4 million in total development, regulatory and sales milestones which include CHF 425,000 in development milestones, CHF 340,000 in regulatory milestones and CHF 680,000 in sales milestones. In addition, we may be obligated to pay royalties upon commercial sales of approved products of less than 1%. In 2017, we made a CHF 85,000 milestone payment in connection with an IND filing. In 2018, we made three milestone payments of CHF 85,000 each in connection with three separate IND filings.

In December 2015, we entered into a Cell Line Sale Agreement with Catalent Pharma Solutions LLC for a worldwide license to develop and commercialize products produced from the Catalent cell line that was manufactured in connection with our XmAb5871 drug candidate. Under the terms of the agreement, we may be obligated to make contingent payments upon transfer of the XmAb5871 manufacturing process to a third party. These contingent payments total $2.75 million and include $500,000 in development milestones and $2.25 million in regulatory milestones in addition to royalties on net sales of XmAb5871 approved products with such royalties less than 1%. In 2017 we transferred the manufacturing process for XmAb5871 to a third-party manufacturer. We did not make any milestone payments under this Agreement in 2018 and 2017.

In December 2011, we entered into a Cell Line Sale Agreement with Catalent Pharma Solutions LLC for a worldwide license to develop and commercialize products produced from the Catalent cell line that was manufactured in connection with our XmAb7195 drug candidate. This agreement was subsequently amended in April 2015. Under the terms of the agreement, we may be obligated to make contingent payments upon transfer of the XmAb7195 manufacturing process to a third party. These contingent payments total $2.75 million and include $500,000 in development milestones and $2.25 million in regulatory milestones in addition to royalties on net sales of XmAb7195 approved products with such royalties less than 1%. We did not make any milestone payments under this Agreement in 2018 and 2017.

In December 2012, we entered into a Cross-License Agreement with MedImmune, LLC (MedImmune) for a non-exclusive license to certain MedImmune patents related to half-life technology. Under the terms of the agreement, we may be obligated to make contingent payments in connection with the use of our Xtend™ technology, including use by us in our development candidates and also for use by our licensees. These contingent payments total $250,000 per program and include $150,000 in clinical milestones and $100,000 in regulatory milestones. In addition, we may be obligated to make contingent payments for tiered sales milestones on the sale of approved products from $20,000 per year to $1.0 million per year. Our obligations to make payments under this agreement expire in December 2021. We made milestone payments under this agreement of $75,000 and $125,000 for 2016 and 2018, respectively.

As the amount and timing of sublicense fees and the achievement and timing of these milestones are not probable and estimable, such commitments have not been included on our balance sheet or in the contractual obligations tables above.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements.

New Accounting Pronouncements

See Note 1 - Recent Accounting Pronouncements in the accompanying financial statements for information regarding recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 10.0% change in interest rates would not have a material effect on the fair market value of our portfolio. Accordingly, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio.

We do not believe that our cash and cash equivalents have significant risk of default or illiquidity. While we believe our cash and cash equivalents do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash and cash equivalents at one or more financial institutions that are in excess of federally insured limits.

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation has had a material effect on our results of operations during the periods presented.

Item 8. Financial Statements and Supplementary Data

Xencor, Inc.
Financial Statements

Audited Financial Statements for the Years Ended December 31, 2018, 2017 and 2016:

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
Xencor, Inc.

Opinion on the Financial Statements
We have audited the accompanying balance sheets of Xencor, Inc. (the Company) as of December 31, 2018 and 2017, the related statements of comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes to the financial statements. In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013, and our report, dated February 25, 2019, expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle
As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for revenue recognition in fiscal years 2018 and 2017 due to the adtoption of Accounting Standards Condification, Topic 606, Revenue from Contracts with Customers.

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 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 audits 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.

We have served as the Company's auditor since 2015.

/s/ RSM US LLP

Los Angeles, California
February 25, 2019

Report of Independent Registered Public Accounting Firm
Regarding Internal Control Over Financial Reporting

To the Board of Directors and Stockholders
Xencor, Inc.

Opinion on Internal Control Over Financial Reporting
We have audited Xencor, Inc.'s (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013.

We have also 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, 2018 and 2017, the related statements of comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, of the Company and our report, dated February 25, 2019, expressed an unqualified opinion.

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 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 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, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ RSM US LLP

Los Angeles, California
February 25, 2019

Xencor, Inc.

Balance Sheets

(in thousands, except share and per share data)

	December 31,	
	2018	2017 (As Revised)
Assets		
Current assets		
Cash and cash equivalents	$ 26,246	$ 16,528
Marketable securities	268,115	207,603
Accounts receivable	10,187	1,142
Income tax receivable	804	—
Prepaid expenses and other current assets	10,375	5,606
Total current assets	315,727	230,879
Property and equipment, net	11,813	7,088
Patents, licenses, and other intangible assets, net	11,969	11,148
Marketable securities - long term	236,108	139,198
Income tax receivable	804	1,524
Loan receivable	—	86
Interest receivable	—	14
Other assets	311	265
Total assets	$ 576,732	$ 390,202
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	$ 3,797	$ 6,869
Accrued expenses	9,662	5,480
Current portion of deferred rent	315	26
Current portion of deferred revenue	40,079	60,118
Income tax payable	—	157
Total current liabilities	53,853	72,650
Deferred rent, less current portion	1,198	1,088
Total liabilities	55,051	73,738
Commitments and contingencies (see note 8)		
Stockholders' equity		
Preferred stock, $0.01 par value: 10,000,000 authorized shares; -0- issued and outstanding shares at December 31, 2018 and 2017	—	—
Common stock, $0.01 par value: 200,000,000 authorized shares; 56,279,542 issued and outstanding shares at December 31, 2018 and 47,002,488 issued and outstanding at December 31, 2017	563	470
Additional paid-in capital	845,366	570,670
Accumulated other comprehensive loss	(971)	(1,808)
Accumulated deficit	(323,277)	(252,868)
Total stockholders' equity	521,681	316,464
Total liabilities and stockholders' equity	$ 576,732	$ 390,202

See accompanying notes to the financial statements.

Xencor, Inc.

Statements of Comprehensive Income (Loss)

(in thousands, except share and per share data)

	Year Ended December 31,		
	2018	**2017** (As Revised)	**2016** (As Revised)
Revenue			
Collaborations, licenses and milestones	$ 40,603	$ 46,150	$ 109,020
Operating expenses			
Research and development	97,501	71,772	51,872
General and administrative	22,472	17,501	13,108
Total operating expenses	119,973	89,273	64,980
Income (loss) from operations	(79,370)	(43,123)	44,040
Other income (expense)			
Interest income	9,102	4,194	2,091
Interest expense	(16)	(13)	(21)
Other income (expense)	(125)	(7)	6
Total other income, net	8,961	4,174	2,076
Income (loss) before income tax	(70,409)	(38,949)	46,116
Income tax expense (benefit)	—	(463)	991
Net income (loss)	(70,409)	(38,486)	45,125
Other comprehensive income (loss)			
Net unrealized gain (loss) on marketable securities available-for-sale	837	(367)	(925)
Comprehensive income (loss)	$ (69,572)	$ (38,853)	$ 44,200
Net income (loss) per share attributable to common stockholders:			
Basic	$ (1.31)	$ (0.82)	$ 1.09
Diluted	$ (1.31)	$ (0.82)	$ 1.07
Weighted average shares used to compute net income (loss) per share attributable to common stockholders:			
Basic	53,942,116	46,817,756	41,267,329
Diluted	53,942,116	46,817,756	42,388,867

See accompanying notes to the financial statements.

Xencor, Inc.

Statements of Stockholders' Equity

(in thousands, except share data)

Stockholders' Equity	Common Stock Shares	Common Stock Amount	Additional Paid in-Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance, December 31, 2015 as originally reported	40,551,039	$ 405	$ 424,128	$ (516)	$ (261,585)	$ 162,432
Adoption of ASC Topic 606	—	—	—	—	2,479	2,479
Balance, December 31, 2015 as revised	40,551,039	405	424,128	(516)	(259,106)	164,911
Sale of common stock, net of issuance cost	5,272,750	53	119,216	—	—	119,269
Issuance of common stock upon exercise and vesting of stock awards	699,066	7	1,153	—	—	1,160
Issuance of common stock under the Employee Stock Purchase Plan	45,123	1	544	—	—	545
Comprehensive income (loss)	—	—	—	(925)	45,125	44,200
Stock-based compensation	—	—	7,848	—	—	7,848
Balance, December 31, 2016	46,567,978	466	552,889	(1,441)	(213,981)	337,933
Adoption of ASU 2016-09	—	—	401	—	(401)	—
Balance, December 31, 2016 as revised	46,567,978	466	553,290	(1,441)	(214,382)	337,933
Issuance of common stock upon exercise of stock awards	363,603	4	2,793	—	—	2,797
Issuance of common stock under the Employee Stock Purchase Plan	70,907	—	936	—	—	936
Comprehensive loss	—	—	—	(367)	(38,486)	(38,853)
Stock-based compensation	—	—	13,651	—	—	13,651
Balance, December 31, 2017	47,002,488	470	570,670	(1,808)	(252,868)	316,464
Sale of common stock, net of issuance cost	8,395,000	84	245,420	—	—	245,504
Issuance of common stock upon exercise of stock awards	824,731	8	7,609	—	—	7,617
Issuance of common stock under the Employee Stock Purchase Plan	57,323	1	1,119	—	—	1,120
Comprehensive income (loss)	—	—	—	837	(70,409)	(69,572)
Stock-based compensation	—	—	20,548	—	—	20,548
Balance, December 31, 2018	**56,279,542**	**$ 563**	**$ 845,366**	**$ (971)**	**$ (323,277)**	**$ 521,681**

See accompanying notes to the financial statements.

Xencor, Inc.

Statements of Cash Flows

(in thousands)

	Year ended December 31,		
	2018	**2017 (As Revised)**	**2016 (As Revised)**
Cash flows from operating activities			
Net income (loss)	$ (70,409)	$ (38,486)	$ 45,125
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	3,251	2,030	1,466
Amortization of premium on marketable securities	(394)	2,845	2,037
Stock-based compensation	20,548	13,651	7,848
Abandonment of capitalized intangible assets	239	396	356
Loss on disposal of assets	102	83	—
Loss (gain) on sale of marketable securities available-for-sale	74	—	(5)
Changes in operating assets and liabilities:			
Accounts receivable	(9,045)	7,474	(8,572)
Interest receivable	(535)	(307)	(609)
Prepaid expenses and other current assets	(4,769)	(2,705)	(1,700)
Income tax receivable	(84)	(1,524)	—
Other assets	(46)	(161)	(40)
Accounts payable	(3,072)	2,989	(2,520)
Accrued expenses	4,182	(1,212)	3,058
Deferred rent	398	589	(89)
Income tax payable	(157)	91	65
Deferred revenue	(20,039)	(19,350)	48,818
Net cash provided by (used in) operating activities	(79,756)	(33,597)	95,238
Cash flows from investing activities			
Proceeds from sale and maturities of marketable securities available-for-sale	222,125	115,757	105,505
Proceeds from sale of property and equipment	9	—	—
Purchase of marketable securities	(377,840)	(76,529)	(316,149)
Purchase of intangible assets	(1,935)	(1,967)	(1,502)
Purchase of property and equipment	(7,212)	(5,311)	(1,507)
Proceeds from repayment of (investment in) loan receivable	86	(86)	(621)
Net cash provided by (used in) investing activities	(164,767)	31,864	(214,274)
Cash flows from financing activities			
Proceeds from issuance of common stock upon exercise of stock awards	7,617	2,797	1,160
Proceeds from issuance of common stock from Employee Stock Purchase Plan	1,120	936	545
Proceeds from issuance of common stock	260,245	—	126,546
Common stock issuance costs	(14,741)	—	(7,277)
Net cash provided by financing activities	254,241	3,733	120,974
Net increase in cash and cash equivalents	9,718	2,000	1,938
Cash and cash equivalents, beginning of year	16,528	14,528	12,590
Cash and cash equivalents, end of year	$ 26,246	$ 16,528	$ 14,528
Supplemental disclosures of cash flow information			
Cash paid for:			
Interest	$ 16	$ 13	$ 21
Taxes	$ 233	$ 969	$ 936
Supplemental Schedule of Noncash Investing Activities			
Net unrealized gain (loss) on marketable securities available-for-sale	$ 837	$ (367)	$ (925)

See accompanying notes to the financial statements.

1. Summary of Significant Accounting Policies

Description of Business

Xencor, Inc. (we, us, our, or the Company) was incorporated in California in 1997 and reincorporated in Delaware in September 2004. We are a clinical-stage biopharmaceutical company focused on discovering and developing engineered monoclonal antibody and proteins to treat severe and life-threatening diseases with unmet medical needs. We use our proprietary XmAb technology platform to create next-generation antibody product candidates designed to treat cancer, autoimmune and allergic diseases, and other conditions. We focus on the portion of the antibody that interacts with multiple segments of the immune system, referred to as the Fc domain, which is constant and interchangeable among antibodies. Our engineered Fc domains, the XmAb technology, are applied to our pipeline of antibody and protein-based drug candidates to increase immune inhibition, improve cytotoxicity, extend half-life and most recently create bispecific Fc domain antibody and protein molecules.

Our operations are based in Monrovia and San Diego, California.

Basis of Presentation

The Company's financial statements as of December 31, 2018, 2017, and 2016 and for the years then ended have been prepared in accordance with accounting principles generally accepted in the United States (U.S.).

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates include useful lives of long-lived assets, the periods over which certain revenues and expenses will be recognized including collaboration revenue recognized from non-refundable upfront licensing payments, the amount of non-cash compensation costs related to share-based payments to employees and non-employees and the period over which these costs are expensed.

Recent Accounting Pronouncements

Pronouncements adopted in 2018

Effective January 1, 2018, the Company adopted Accounting Standards Codification Topic 606 (ASC 606), Revenue from Contracts with Customers, using the full retrospective transition method. Under this method, the Company is presenting its financial statements for the years ended December 31, 2017 and 2016 as if ASC 606 had been effective for those periods.

Under ASC 606 an entity recognizes revenue when its customer obtains control of promised goods or services in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. A five-step model is used to achieve the core principle: (1) identify the customer contract, (2) identify the contract's performance obligations, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations and (5) recognize revenue when or as a performance obligation is satisfied. The Company applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. The new guidance provides that revenue recognition for performance obligations related to delivery of certain goods or services occurs when control over the good or service is transferred to the customer. In addition, the timing of revenue recognition from licensing of our intellectual property that are functional and are distinct performance obligations changed from being recognized over the term of access to our license or technology to being recognized at a point in time. See Note 12 "Prior Period Financial Statements" for a complete discussion of the impact of adopting the new standard.

Effective January 1, 2018, the Company adopted ASU 2016-01, *Financial Instruments – Overall: Recognition and Measurement of Financial Assets and Liabilities,* which eliminates the available-for-sale classification for equity securities and requires equity securities to be measured at fair value with changes in the fair value recognized through net income. This ASU eliminates the available-for-sale classification for equity investments that recognized changes in the fair value as a component of other comprehensive income. The adoption had no effect on the Company's financial statements.

Effective January 1 2018, the Company adopted ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. The standard clarifies when cash receipts and cash payments have aspects of more than one class of cash flows and cannot be separated. Classification will depend on the predominant source or use. The adoption did not have an effect on the Company's statements of cash flow.

Effective January 1, 2018, the Company adopted ASU No. 2017-09, *Compensation – Stock Compensation (Topic 718)*. The standard applies when a company changes the terms of a stock compensation award previously granted to an employee where modification accounting applies. According to the standard, modification accounting is not required if (1) the fair value of the modified award (or the award's calculated value or intrinsic value as appropriate) is the same as the value immediately prior to its modification, (2) the vesting conditions of the modified award are the same as the vesting conditions of the award immediately prior to its modification; and (3) the award's classification as an equity or liability is the same after the modification as it was immediately prior to its modification. The Company did not have any modifications upon adopting the new standard; therefore, adoption had no effect on the Company's financial statements.

Pronouncements not yet effective

In February 2016, the FASB issued ASU No. 2016-02 *Leases (Topic 842)*. The new guidance requires lessees to recognize in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term for all leases not considered short term. The new standard will be effective for reporting periods beginning after December 15, 2018. In July 2018, the FASB issued ASU No. 2018-10 *Codification Improvements to Topic 842, Leases* and ASU No. 2018-11, *Lease (Topic 842): Targeted Improvements*, which provides narrow aspects of the guidance issued in ASU No. 2016-02 as well as an alternative transition method of adoption, permitting the recognition of cumulative-effect adjustment to retained earnings on the date of adoption. The new standard also provides a number of optional practical expedients in transition, including the "package of practical expedients," which permits us not to reassess under the new standard our prior conclusions about lease identification, lease classification and initial direct cost.

We will adopt the new standard on January 1, 2019 using the cumulative effect adjustment method, with the election of the package of practical expedients and hindsight practical expedient. We have completed a preliminary assessment of the new standard's impact, which includes a total of five operating leases for facilities in Monrovia and San Diego. Under Topic 842, deferred rent liability under operating lease is no longer tracked separately; instead, it will integrate as part of the right-of-use (ROU) asset. As a result, we expect to adjust the cumulative effect to the beginning balance for deferred rent liability, and adopt the use of right-of-use asset and lease liability. We do not expect that this standard will have a material impact on our financial statements. Upon adoption, we estimate that we will have additional liabilities ranging from $10 million to $12 million with a corresponding ROU assets of a similar amount for lease agreements in effect as of December 31, 2018. This will result in an estimated increase to the beginning balance on both assets and liabilities after the adjustment of between $10 million and $12 million, with no impact on our retained earnings.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which amends the guidance on reporting credit losses for assets held at amortized cost basis and available-for-sale debt securities. Credit losses relating to available-for-sale debt securities will be recorded through an allowance for credit losses rather than as a direct write-down to the security. Credit losses on available-for-sale securities will be required when the amortized cost is below the fair market value. The amendment is effective for fiscal years beginning after December 15, 2019 including interim periods within those fiscal years. In November 2018, the FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments – Credit Losses*, which clarifies that receivables arising from operating leases are not within the scope of Topic 326. We will apply the standard's provision as a cumulative effect adjustment to retained earnings as of the beginning of the first effective reporting period. We do not expect the adoption to have a material impact on our results of operations or financial position.

In March 2017, the FASB issued ASU No. 2017-08, *Receivables – Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities,* which amends the guidance on the amortization period of premiums on certain purchased callable debt securities by shortening the amortization period of premiums to the earliest call date. The amendment affects all entities that hold investments in callable debt securities that have an amortized cost basis in excess of the amount that is repayable by the issuer at the earliest call date. The amendment is effective for fiscal years after December 31, 2018 with early adoption permitted. The Company will review the requirements of the standard but does not anticipate it will have a significant impact on our financial statements.

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*, an amendment which permits companies to reclassify the income tax effects of the 2017 Tax Cuts and Jobs Act (TCJA) on items within accumulated other comprehensive income to retained earnings. The standard also requires new disclosures about these stranded tax effects and is effective for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years. Early adoption is permitted and can be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the TCJA is recognized. The Company is currently evaluating the impact the guidance will have on its financial statements.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, which expands the scope of Topic 718 to include share-based payments issued to nonemployees for goods and services. The standard is effective for fiscal years beginning after December 15, 2018 and interim periods within such fiscal year. The Company does not anticipate that the standard will have a significant impact on its financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*, which modifies the disclosures for transfers between Level 1 and Level 2 of the fair value hierarchy, modifies the level 3 disclosure requirements for non-public entities and requires additional disclosure for Level 3 fair value hierarchy. The amendment is effective for fiscal years beginning after December 15, 2019. The Company does not anticipate that the standard will have a significant 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): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract*, which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendment. The amendment is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2019. The Company does not anticipate that the standard will have a significant impact on its financial statements.

In October 2018, the FASB issued ASU No. 2018-17, Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities, which amends the guidance for determining whether a decision-making fee is a variable interest. The amendments require organizations to consider indirect interests held through related parties under common control on a proportional basis rather than as the equivalent of a direct interest in its entirety (as currently required). The Company does not anticipate that the standard will have a significant impact on tis financial statements.

In November 2018, the FASB issued ASU No. 2018-18, Collaborative Arrangements (Topic 808): Clarifying the Interaction Between Topic 808 and Topic 606, which provides guidance on how to assess whether certain transactions between collaborative arrangement participants should be accounted for within the revenue recognition standard. The standard is effective for fiscal years beginning after December 15, 2019 and interim period within those years. The Company does not anticipate that the standard will have a significant impact on its financial statements.

Revenue Recognition

We have, to date, earned revenue from research and development collaborations, which may include research and development services, licenses of our internally-developed technologies, licenses of our internally-developed drug candidates, or combinations of these.

The terms of our license and research and development and collaboration agreements generally include non-refundable upfront payments, research funding, co-development reimbursements, license fees and, milestone and other contingent payments to us for the achievement of defined collaboration objectives and certain clinical, regulatory and sales-based events, as well as royalties on sales of any commercialized products.

The terms of our licensing agreements include non-refundable upfront fees, annual licensing fees, and contractual payment obligations for the achievement of pre-defined preclinical, clinical, regulatory and sales-based events by our partners. The licensing agreements also include royalties on sales of any commercialized products by our partners.

We recognize revenue through the five-step process in accordance with ASC 606 Revenue Recognition when control of the promised goods or services is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services.

Deferred Revenue

Deferred revenue arises from payments received in advance of the culmination of the earnings process. We have classified deferred revenue for which we stand ready to perform within the next 12 months as a current liability. We recognize deferred revenue as revenue in future periods when the applicable revenue recognition criteria have been met. The total amounts reported as deferred revenue were $40.1 million and $60.1 million at December 31, 2018 and 2017, respectively.

Research and Development Expenses

Research and development expenses include costs we incur for our own and for our collaborators' research and development activities. Research and development costs are expensed as incurred. These costs consist primarily of salaries and benefits, including associated stock-based compensation, laboratory supplies, facility costs, and applicable overhead expenses of personnel directly involved in the research and development of new technology and products, as well as fees paid to other entities that conduct certain research development activities on our behalf. We estimate preclinical study and clinical trial expenses based on the services performed pursuant to the contracts with research institutions and clinical research organizations that conduct and manage preclinical studies and clinical trials on our behalf based on the actual time and expenses incurred by them. Further, we accrue expenses related to clinical trials based on the level of patient enrollment and activity according to the related agreement. We monitor patient enrollment levels and related activity to the extent reasonably possible and adjust estimates accordingly.

We capitalize acquired research and development technology licenses and third-party contract rights and amortize the costs over the shorter of the license term or the expected useful life. We review the license arrangements and the amortization period on a regular basis and adjust the carrying value or the amortization period of the licensed rights if there is evidence of a change in the carrying value or useful life of the asset.

Cash and Cash Equivalents

We consider cash equivalents to be only those investments which are highly liquid, readily convertible to cash and which mature within three months from the date of purchase.

Marketable Securities

The Company has an investment policy that includes guidelines on acceptable investment securities, minimum credit quality, maturity parameters and concentration and diversification. The Company invests its excess cash primarily in marketable debt securities issued by investment grade institutions.

The Company considers its marketable debt securities to be "available-for-sale", as defined by authoritative guidance issued by the FASB. These assets are carried at fair value and the unrealized gains and losses are included in accumulated other comprehensive income (loss). Accrued interest on marketable debt securities is included in marketable securities. Accrued interest was $2.3 million and $1.7 million at December 31, 2018 and 2017, respectively. If a decline in the value of a marketable security in the Company's investment portfolio is deemed to be other-than-temporary, the Company writes down the security to its current fair value and recognizes a loss as a charge against income. The Company reviews its portfolio of marketable debt securities, using both quantitative and qualitative factors, to determine if declines in fair value below cost are other-than-temporary.

Concentrations of Risk

Cash, cash equivalents and marketable debt securities are financial instruments that potentially subject the Company to concentrations of risk. We invest our cash in corporate debt securities and U.S. sponsored agencies with strong credit ratings. We have established guidelines relative to diversification and maturities that are designed to help ensure safety and liquidity. These guidelines are periodically reviewed to take advantage of trends in yields and interest rates.

Cash and cash equivalents are maintained at financial institutions and, at times, balances may exceed federally insured limits. We have never experienced any losses related to these balances. Amounts on deposit in excess of federally insured limits at December 31, 2018 and 2017 approximated $26.0 million and $16.3 million, respectively.

We have payables with four service providers that represent 49% of our total payables and two service providers that represented 40% of our total payables at December 31, 2018 and 2017, respectively. We rely on three critical suppliers for the manufacture of our drug product for use in our clinical trials. While we believe that there are alternative vendors available, a change in manufacturing vendors could cause a delay in the availability of drug product and result in a delay of conducting and completing our clinical trials. No other vendor accounted for more than 10% of total payables at December 31, 2018 or 2017.

Fair Value of Financial Instruments

Our financial instruments primarily consist of cash and cash equivalents, marketable debt securities, accounts receivable, accounts payable and accrued expenses. Marketable debt securities and cash equivalents are carried at fair value. The fair value of the other financial instruments closely approximate their fair value due to their short maturities.

The Company accounts for recurring and non-recurring fair value measurements in accordance with FASB Accounting Standards Codification (ASC) 820, *Fair Value Measurements and Disclosures* (ASC 820). ASC 820 defines fair value, establishes a fair value hierarchy for assets and liabilities measured at fair value, and requires expanded disclosure about fair value measurements. The ASC 820 hierarchy ranks the quality of reliable inputs, or assumptions, used in the determination of fair value and requires assets and liabilities carried at fair value to be classified and disclosed in one of the following three categories:

Level 1—Fair Value is determined by using unadjusted quoted prices that are available in active markets for identical assets or liabilities.

Level 2—Fair Value is determined by using inputs other than Level 1 quoted prices that are directly or indirectly observable. Inputs can include quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in markets that are not active. Related inputs can also include those used in valuation or other pricing models, such as interest rates and yield curves that can be corroborated by observable market data.

Level 3—Fair value is determined by inputs that are unobservable and not corroborated by market data. Use of these inputs involves significant and subjective judgments to be made by the reporting entity – e.g. determining an appropriate discount factor for illiquidity associated with a given security.

The Company measures the fair value of financial assets using the highest level of inputs that are reasonably available as of the measurement date. The assets recorded at fair value are classified within the hierarchy as follows for the periods reported (in thousands):

	December 31, 2018		
	Total Fair Value	Level 1	Level 2
Money Market Funds in Cash and Cash Equivalents	$ 18,270	$ 18,270	$ —
Corporate Securities	104,967	—	104,967
Government Securities	399,256	—	399,256
	$ 522,493	$ 18,270	$ 504,223

	December 31, 2017		
	Total Fair Value	Level 1	Level 2
Money Market Funds in Cash and Cash Equivalents	$ 5,175	$ 5,175	$ —
Corporate Securities	123,270	—	123,270
Government Securities	223,530	—	223,530
	$ 351,975	$ 5,175	$ 346,800

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the assets. Expenditures for repairs and maintenance are charged to expense as incurred while renewals and improvements are capitalized. Useful lives by asset category are as follows:

Computers, software and equipment	3 - 5 years
Furniture and fixtures	5 - 7 years
Leasehold improvements	5 - 7 years or remaining lease term, whichever is less

Patents, Licenses, and Other Intangible Assets

The cost of acquiring licenses is capitalized and amortized on the straight-line basis over the shorter of the term of the license or its estimated economic life, ranging from five to 25 years. Third-party costs incurred for acquiring patents are capitalized. Capitalized costs are accumulated until the earlier of the period that a patent is issued or we abandon the patent claims. Cumulative capitalized patent costs are amortized on a straight-line basis from the date of issuance over the shorter of the patent term or the estimated useful economic life of the patent, ranging from 13 to 20 years. Our senior management, with advice from outside patent counsel, assesses three primary criteria to determine if a patent will be capitalized initially: i) technical feasibility, ii) magnitude and scope of new technical function covered by the patent compared to the company's existing technology and patent portfolio, particularly assessing the value added to our product candidates or licensing business, and iii) legal issues, primarily assessment of patentability and prosecution cost. We review our intellectual property on a regular basis to determine if there are changes in the estimated useful life of issued patents and if any capitalized costs for unissued patents should be abandoned. Capitalized patent costs related to abandoned patent filings are charged off in the period of the decision to abandon. During 2018, 2017 and 2016, we abandoned previously capitalized patent and licensing related charges of $0.2 million, $0.4 million and $0.4 million, respectively.

The carrying amount and accumulated amortization of patents, licenses, and other intangibles is as follows (in thousands):

	December 31,	
	2018	2017
Patents, definite life	$ 9,320	$ 8,915
Patents, pending issuance	5,644	4,360
Licenses and other amortizable intangible assets	2,011	2,011
Nonamortizable intangible assets (trademarks)	399	399
Total gross carrying amount	17,374	15,685
Accumulated amortization—patents	(4,142)	(3,413)
Accumulated amortization—licenses and other	(1,263)	(1,124)
Total intangible assets, net	$ 11,969	$ 11,148

Amortization expense for patents, licenses, and other intangible assets was $0.9 million, $0.8 million, and $0.8 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Future amortization expense for patent, licenses, and other intangible assets recorded as of December 31, 2018, and for which amortization has commenced, is as follows:

	Year ended December 31, (in thousands)
2019	$ 862
2020	860
2021	757
2022	730
2023	659
Thereafter	1,923
Total	$ 5,791

The above amortization expense forecast is an estimate. Actual amounts of amortization expense may differ from estimated amounts due to additional intangible asset acquisitions, impairment of intangible assets, accelerated amortization of intangible assets, and other events. As of December 31, 2018, the Company has $5.6 million of intangible assets which are in-process and have not been placed in service and, accordingly amortization on these assets has not commenced.

Long-Lived Assets

Management reviews long-lived assets which include fixed assets and amortizable intangibles for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (or asset group) may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured as the amount by which the carrying amount of the assets exceeds the fair value of the assets.

We did not recognize a loss from impairment for the years ended December 31, 2018, 2017 or 2016.

Income Taxes

We account for income taxes in accordance with accounting guidance which requires an asset and liability approach to financial accounting and reporting for income taxes. Deferred income tax assets and liabilities are computed annually for differences between the financial statement and tax bases of assets and liabilities that will result in taxable or deductible amounts in the future based on enacted tax laws and rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized. Income tax expense is the tax payable or refundable for the period plus or minus the change during the period in deferred tax assets and liabilities.

We assess our income tax positions and record tax benefits for all years subject to examination based upon our evaluation of the facts, circumstances and information available at the reporting date. For those tax positions where there is greater than 50% likelihood that a tax benefit will be sustained, we have recorded the largest amount of tax benefit that may potentially be realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where there is a 50% or less likelihood that a tax benefit will be sustained, no tax benefit has been recognized in the financial statements. We did not have any material uncertain tax positions at December 31, 2018 or 2017.

Our policy is to recognize interest and penalties on taxes, if any, as a component of income tax expense.

The Tax Cuts and Jobs Act (tax reform) was enacted on December 22, 2017 and has several key provisions impacting accounting for and reporting of income taxes. The most significant provisions reduced the U.S. corporate statutory tax rate from 35% to 21%, eliminated the Alternative Minimum Tax (AMT) system, and made changes to the utilization and carryforward of net operating losses beginning on January 1, 2018. The tax reform provided for a refund of unused AMT carryforwards for years beginning after December 31, 2017. We recorded an income tax receivable as of December 31, 2018 of $1.6 million related to federal AMT carryforwards.

Stock-Based Compensation

We recognize compensation expense using a fair-value-based method for costs related to all share-based payments, including stock options and shares issued under our Employee Stock Purchase Plan (ESPP). Stock-based compensation cost related to employees and directors is measured at the grant date, based on the fair-value-based measurement of the award using the Black-Scholes method, and is recognized as expense over the requisite service period on a straight-line basis. We account for forfeitures when they occur. We recorded stock-based compensation and expense for stock-based awards to employees, directors and consultants of approximately $20.5 million, $13.7 million, and $7.8 million for the years ended December 31, 2018, 2017 and 2016 respectively. Included in the 2018, 2017, and 2016 balances for total compensation expense is $0.7 million, $0.5 million, and $0.4 million, respectively, relating to our ESPP.

Options granted to individual service providers that are not employees or directors are accounted for at estimated fair value using the Black-Scholes option-pricing method and are subject to periodic re-measurement over the period during which the services are rendered.

Net Income (Loss) Per Share

Basic net income (loss) per common share is computed by dividing the net income or loss by the weighted-average number of common shares outstanding during the period. Potentially dilutive securities consisting of stock options for 2018 and 2017, and stock purchases under the Employee Stock Purchase Plan were not included in the diluted net loss per common shares calculation because the inclusion of such shares would have had an antidilutive effect as follows:

	Year Ended December 31,		
	2018	2017	2016
	(in thousands)		
Options to purchase common stock	1,881	1,291	—
Employee stock purchase plan shares	3	—	—
Total	1,884	1,291	—

	Year Ended December 31,		
	2018	2017	2016
	(in thousands, except share and per share data)		
		(As Revised)	(As Revised)
Basic			
Numerator:			
Net income (loss) attributable to common stockholders for basic net income (loss) per share	$ (70,409)	$ (38,486)	$ 45,125
Denominator:			
Weighted-average common shares outstanding	53,942,116	46,817,756	41,267,329
Basic net income (loss) per common share	$ (1.31)	$ (0.82)	$ 1.09
Diluted			
Numerator:			
Net income (loss) attributable to common stockholders for diluted net income (loss) per share	$ (70,409)	$ (38,486)	$ 45,125
Denominator:			
Weighted average number of common shares outstanding used in computing basic net income (loss) per common share	53,942,116	46,817,756	41,267,329
Dilutive effect of employee stock options and ESPP	—	—	1,121,538
Weighted-average number of common shares outstanding used in computing diluted net income (loss) per common share	53,942,116	46,817,756	42,388,867
Diluted net income (loss) per common share	$ (1.31)	$ (0.82)	$ 1.07

Segment Reporting

The Company determines its segment reporting based upon the way the business is organized for making operating decisions and assessing performance. The Company has only one operating segment related to the development of pharmaceutical products.

2. Comprehensive Income (Loss)

Comprehensive income (loss) is comprised of net income (loss) and other comprehensive income (loss). For the years ended December 31, 2018 and 2017, the only component of other comprehensive loss is net unrealized losses on marketable debt securities. There were no material reclassifications out of accumulated other comprehensive loss during the year ended December 31, 2018.

3. Marketable Securities

The Company's marketable debt securities held as of December 31, 2018 and 2017 are summarized below:

	December 31, 2018			
(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money Market Funds	$ 18,270	$ —	$ —	$ 18,270
Corporate Securities	105,311	1	(345)	104,967
Government Securities	399,873	187	(804)	399,256
	$ 523,454	$ 188	$ (1,149)	$ 522,493
Reported as				
Cash and cash equivalents				$ 18,270
Marketable securities				504,223
Total investments				$ 522,493

	December 31, 2017			
(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money Market Funds	$ 5,175	$ —	$ —	$ 5,175
Corporate Securities	123,860	—	(590)	123,270
Government Securities	224,739	—	(1,209)	223,530
	$ 353,774	$ —	$ (1,799)	$ 351,975
Reported as				
Cash and cash equivalents				$ 5,175
Marketable securities				346,800
Total investments				$ 351,975

The maturities of the Company's marketable debt securities as of December 31, 2018 are as follows:

(in thousands)	Amortized Cost	Estimated Fair Value
Mature in one year or less	$ 269,092	$ 268,115
Mature after one year through five years	236,092	236,108
	$ 505,184	$ 504,223

The unrealized losses on available-for-sale investments and their related fair values as of December 31, 2018 and 2017 are as follows:

	December 31, 2018			
	Less than 12 months		12 months or greater	
(in thousands)	Fair value	Unrealized losses	Fair value	Unrealized gain (losses)
Corporate Securities	$ 84,770	$ (310)	$ 20,198	$ (34)
Government Securities	183,345	(667)	215,910	50
	$ 268,115	$ (977)	$ 236,108	$ 16

	December 31, 2017			
	Less than 12 months		12 months or greater	
(in thousands)	Fair value	Unrealized losses	Fair value	Unrealized losses
Corporate Securities	$ 79,290	$ (137)	$ 43,980	$ (453)
Government Securities	128,313	(461)	95,217	(748)
	$ 207,603	$ (598)	$ 139,197	$ (1,201)

The unrealized losses from the listed securities are due to a change in the interest rate environment and not a change in the credit quality of the securities.

4. Sale of Additional Common Stock

In March 2015, we completed the sale of 8,625,000 shares of common stock which included shares we issued pursuant to our underwriters' exercise of their over-allotment option pursuant to a follow-on offering. We received net proceeds of $115.2 million, after underwriting discounts, commissions and estimated offering expenses.

In December 2016, we completed the sale of 5,272,750 shares of common stock which included shares we issued pursuant to our underwriters' exercise of their over-allotment option pursuant to a follow-on financing. We received net proceeds of $119.3 million after underwriting discounts, commissions and offering expenses.

In March 2018, we completed the sale of 8,395,000 shares of commons stock which included shares we issued pursuant to our underwriters' exercise of their over-allotment option pursuant to a follow-on financing. We received net proceeds of $245.5 million, after underwriters discounts and offering expenses.

On September 19, 2016, we entered into an Equity Distribution Agreement (the Distribution Agreement) with Piper Jaffray & Co (Piper Jaffray) pursuant to which we may sell from time to time, at our option, up to an aggregate of $40 million of common stock through Piper Jaffray as sales agent. The issuance and sale of these shares by Xencor under the Distribution Agreement will be pursuant to our shelf registration statement on Form S-3 (File No.333-213700) declared effective by the SEC on October 5, 2016. We are not obligated sell any shares of common stock under the Distribution Agreement, and to date we have not sold any shares under the Distribution Agreement.

5. Property and Equipment

Property and equipment consist of the following:

	December 31,	
	2018	2017
	(In thousands)	
Computers, software and equipment	$ 16,292	$ 10,874
Furniture and fixtures	173	152
Leasehold and tenant improvements	4,774	4,010
	21,239	15,036
Less accumulated depreciation and amortization	(9,426)	(7,948)
	$ 11,813	$ 7,088

Depreciation and amortization expense related to property and equipment in 2018, 2017 and 2016 was $2.4 million, $1.2 million and $0.7 million, respectively.

6. Income Taxes

Our effective tax rate differs from the statutory federal income tax rate, primarily as a result of the changes in valuation allowance. There was no provision for income taxes for the year ended December 31, 2018. For the year ended December 31, 2017, the provision for income tax is a benefit of $0.5 million. Current tax expense of $1.0 million for the year ended December 31, 2016 represents federal and state alternative minimum tax.

A reconciliation of the federal statutory income tax to our effective income tax is as follows (in thousands):

	Year Ended December 31,		
	2018	2017	2016
		(Revised)	(Revised)
Federal statutory income tax	$ (14,795)	$ (13,243)	$ 15,680
State and local income taxes	(4,767)	(1,806)	2,818
Research and development credit	(6,170)	(5,554)	(2,544)
Stock based compensation	444	2,709	733
Effect of the 2017 Tax Cut and Jobs Act	—	19,596	—
Other	414	720	1,008
Net change in valuation allowance	24,874	(2,885)	(16,695)
Income tax provision (benefit)	$ —	$ (463)	$ 1,000

The tax effect of temporary differences that give rise to a significant portion of the deferred tax assets and liabilities at December 31, 2018 and 2017 is presented below (in thousands):

	December 31,	
	2018	2017 (Revised)
Deferred income tax assets		
Net operating loss carryforwards	$ 49,889	$ 25,565
Research credits	23,151	16,642
Depreciation	207	437
Unrealized loss on securities	269	504
Accrued compensation	1,097	748
Deferred revenue	11,222	16,820
State taxes	—	(2)
Gross deferred income tax assets	85,835	60,714
Valuation allowance	(82,537)	(57,663)
Net deferred income tax assets	3,298	3,051
Deferred income tax liabilities		
Patent costs	(3,142)	(2,873)
Licensing costs	(125)	(142)
Capitalized legal costs	(31)	(36)
Gross deferred income tax liabilities	(3,298)	(3,051)
Net deferred income tax asset	$ —	$ —

The Tax Cuts and Jobs Act (TCJA) was enacted in December 2017 and made substantial changes in the U.S. tax system. One of the changes was elimination of the AMT tax system for corporations and allowance of an income tax refund for AMT tax credit carryforwards as of December 31, 2017. We have reported an income tax receivable of $1.6 million as of December 31, 2018 and 2017 to reflect the U.S. AMT credit carryforwards we have available. Due to the uncertainty surrounding the realization of the benefits of our deferred tax assets in future tax periods, we have placed a valuation allowance against our deferred tax assets at December 31, 2018 and 2017. The Company recognizes valuation allowances to reduce deferred tax assets to the amount that is more likely than not to be realized. The Company's net deferred income tax asset is not more likely than not to be realized due to the lack of sufficient sources of future taxable income and cumulative losses that have resulted over the years. During the year ended December 31, 2018, the valuation allowance increased by $24.9 million. Upon analysis, there were changes in ownership under Section 382 of the Internal Revenue Code and related state provisions as a result of our sale of preferred stock and sale of common stock during 2013. Section 382 limits the amount of net operating losses and tax credit forwards that may be available after a change in ownership. The Company has adjusted its net operating loss and tax credit carryforwards to reflect the impact of the section 382 limitations. The Company's tax returns remain open to potential inspection for the years 2013 and onwards for federal purposes and 2012 and onwards for state purposes.

As of December 31, 2018, we had cumulative net operating loss carryforwards for federal and state income tax purposes of $191.1 million and $138.9 million respectively, and available tax credit carryforwards of approximately $14.9 million for federal income tax purposes and $8.2 million for state income tax purposes, which can be carried forward to offset future taxable income, if any. The federal net operating loss carryforwards consists of $102.6 million of losses incurred prior to January 1, 2018 and which can be used to offset 100% of future taxable income and, $88.6 million of losses incurred after January 1, 2018 which can be used to offset up to 80% of taxable income in subsequent years.

Our federal net operating loss carryforwards expire starting in 2026, state net operating losses expire starting in 2032, and federal tax credit carryforwards expire starting in 2019. Utilization of the net operating losses and tax credits are subject to a substantial annual limitation due to ownership changes which occurred. As a result of these changes, provisions in the Internal Revenue Code of 1986 under Section 382 and similar state provisions may result in the expiration of certain of our net operating losses and tax credits before we can use them.

7. Stock-Based Compensation

Our Board of Directors and the requisite stockholders previously approved the 2010 Equity Incentive Plan (the 2010 Plan). In October 2013, our Board of Directors approved the 2013 Equity Incentive Plan (the 2013 Plan) and in November 2013 our stockholders approved the 2013 Plan. The 2013 Plan provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards, and other stock awards. The 2013 Plan became effective as of December 3, 2013, the date of the Company's initial public offering. As of December 2, 2013, we suspended the 2010 Plan and no additional awards may be granted under the 2010 Plan. Any shares of common stock covered by awards granted under the 2010 Plan that terminate after December 2, 2013 by expiration, forfeiture, cancellation or other means without the issuance of such shares will be added to the 2013 Plan reserve.

As of December 31, 2018, the total number of shares of common stock available for issuance under the 2013 Plan was 9,581,833. Unless otherwise determined by the Board, beginning January 1, 2014, and continuing until the expiration of the 2013 Plan, the total number of shares of common stock available for issuance under the 2013 Plan will automatically increase annually on January 1 by 4% of the total number of issued and outstanding shares of common stock as of December 31 of the immediate preceding year. On January 1, 2018, the total number of shares of common stock available for issuance under the 2013 Plan was automatically increased by 1,880,100 shares, which number is included in the number of shares available for issuance above. As of December 31, 2018 a total of 6,751,287 options have been issued under the 2013 Plan.

During the year ended December 31, 2018, the Company awarded 33,933 Restricted Stock Units (RSUs) to certain employees pursuant to the 2013 Plan. Vesting of these awards will be in three equal annual installments and is contingent on continued employment terms. The fair value of these awards is determined based on the intrinsic value of the stock on the date of grant and will be recognized as stock-based compensation expense over the requisite service period.

In November 2013, our Board of Directors and stockholders approved the 2013 Employee Stock Purchase Plan (ESPP), which became effective as of December 5, 2013. Under the ESPP our employees may elect to have between 1-15% of their compensation withheld to purchase shares of the Company's common stock at a discount. The ESPP had an initial two-year term that includes four six-month purchase periods and employee withholding amounts may be used to purchase Company stock during each six-month purchase period. The initial two-year term ended in December 2015 and pursuant to the provisions of the ESPP, the second two-year term began automatically upon the end of the initial term. The total number of shares that can be purchased with the withholding amounts are based on the lower of 85% of the Company's common stock price at the initial offering date or 85% of the Company's stock price at each purchase date.

We have reserved a total of 581,286 shares of common stock for issuance under the ESPP. Unless otherwise determined by our Board, beginning on January 1, 2014, and continuing until the expiration of the ESPP, the total number shares of common stock available for issuance under the ESPP will automatically increase annually on January 1 by the lesser of (i) 1% of the total number of issued and outstanding shares of common stock as of December 31 of the immediately preceding year, or (ii) 621,814 shares of common stock. On January 1, 2014, the total number of shares of common stock available for issuance under the ESPP was automatically increased by 313,545 shares, which number is included in the number of shares reserved for issuance above. Pursuant to approval by our board, there were no increases in the number of authorized shares in the ESPP in years from 2015 to 2018. As of December 31, 2018, we have issued a total of 349,716 shares of common stock under the ESPP.

Total employee, director and non-employee stock-based compensation expense recognized was as follows:

(In thousands)	Year Ended December 31, 2018	2017	2016
General and administrative	$ 7,699	$ 5,617	$ 3,592
Research and development	12,849	8,034	4,256
	$ 20,548	$ 13,651	$ 7,848

(In thousands)	Year Ended December 31, 2018	2017	2016
Stock options	$ 19,537	$ 13,153	$ 7,470
ESPP	744	498	378
Restricted stock units	267	—	—
	$ 20,548	$ 13,651	$ 7,848

Information with respect to stock options outstanding is as follows:

	December 31, 2018	2017	2016
Exercisable options	3,058,659	2,558,941	1,743,765
Weighted average exercise price per share of exercisable options	$ 15.12	$ 11.06	$ 8.87
Weighted average grant date fair value per share of options granted during the year	$ 18.06	$ 16.92	$ 10.30
Options available for future grants	3,576,574	3,394,691	2,943,216
Weighted average remaining contractual life	7.51	7.62	7.82

The following table summarizes stock option activity for the years ended December 31, 2018 and 2017:

	Number of Shares	Weighted-Average Exercise Price (Per Share)[1]	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)[2]
Balances at December 31, 2016	4,045,801	11.95	7.82	$ 58,131
Options granted	1,511,100	22.61		
Options forfeited	(96,856)	17.08		
Options expired	(3,000)	21.99		
Options exercised(3)	(363,603)	7.69		
Balances at December 31, 2017	5,093,442	15.32	7.62	$ 35,495
Options granted	1,805,937	27.43		
Options forfeited	(107,720)	21.66		
Options exercised(3)	(824,731)	9.24		
Balances at December 31, 2018	5,966,928	$ 19.71	7.51	$ 99,273
As of December 31, 2018				
Options vested and expected to vest	5,966,928	$ 19.71	7.51	$ 99,273
Exercisable	3,058,659	$ 15.12	6.42	$ 64,417

(1) The weighted average exercise price per share is determined using exercise price per share for stock options.

(2) The aggregate intrinsic value is calculated as the difference between the exercise price of the option and the fair value of our common stock for in- the-money options at December 31, 2018 and 2017.

(3) The total intrinsic value of stock options exercised was $23.6 million, $5.7 million and $11.2 million for the years ended December 31, 2018, 2017 and 2016 respectively.

The stock options outstanding and exercisable by exercise price at December 31, 2018 are as follows:

	Stock Options Outstanding			Stock Options Exercisable	
Range of Exercise Prices	Number of Shares	Weighted-Average Remaining Contractual Term (in years)	Weighted-Average Exercise Price Per Share	Number of Shares	Weighted-Average Exercise Price Per Share
$0.59 – $4.25	291,433	4.49	$ 3.63	291,433	$ 3.63
$9.78 – $14.75	1,560,249	6.39	$ 12.10	1,281,242	$ 11.97
$14.77 – $22.18	852,138	6.62	$ 17.00	706,562	$ 16.35
$22.20 – $33.78	2,929,571	8.42	$ 23.92	760,672	$ 23.08
$34.56 – $43.16	333,537	9.68	$ 39.26	18,750	$ 38.93
	5,966,928	7.51	$ 19.71	3,058,659	$ 15.12

We estimated the fair value of employee and non-employee awards using the Black-Scholes valuation model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. Management estimates the probability of non-employee awards being vested based upon an evaluation of the non-employee achieving their specific performance goals.

Options granted after our initial public offering are issued at the fair market value of our stock on the date of grant.

The fair value of employee stock options was estimated using the following weighted average assumptions for the years ended December 31, 2018, 2017 and 2016:

	Options		
	2018	2017	2016
Common stock fair value per share	$ 21.80 - 43.16	$ 19.61 - 25.67	$ 11.50 - 26.76
Expected volatility	70.97% - 73.10%	77.42% - 96.73%	75.77% - 90.83%
Risk-free interest rate	2.29% - 3.10%	0.96% - 2.37%	1.03% - 2.18%
Expected dividend yield	—	—	—
Expected term (in years)	5.23 - 6.08	5.23 - 6.08	5.23 - 6.08

	ESPP		
	2018	2017	2016
Expected term (years)	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0
Expected volatility	57.0% - 71.4%	67.8% - 79.8%	67.8% - 79.8%
Risk-free interest rate	1.47% - 2.70%	0.47% - 1.80%	0.47% - 0.93%
Expected dividend yield	—	—	—

The expected term of stock options represents the average period the stock options are expected to remain outstanding. The expected stock price volatility for our stock options for the years ended December 31, 2018, 2017 and 2016 was determined by examining the historical volatilities for industry peers and adjusting for differences in our life cycle and financing leverage. Industry peers consist of several public companies in the biopharmaceutical industry.

We determined the average expected life of stock options based on the simplified method because our common stock has not been publicly traded for an extended period and we do not have a track record of our stock being traded on the public markets for sufficient time to establish the volatility of our stock.

The risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the expected term of our stock options.

The expected dividend assumption is based on our history and expectation of dividend payouts.

The following table summarizes restricted stock units activity for the years ended December 31, 2018:

	Number of Shares	Weighted-Average Grant Date Fair Value (Per Unit)
Unvested at December 31, 2017	—	—
Granted	33,933	$ 27.64
Vested	—	—
Forfeited	—	—
Unvested at December 31, 2018	33,933	$ 27.64

As of December 31, 2018 and 2017, the unamortized compensation expense related to unvested stock options was $42.8 million and $30.7 million, respectively. The remaining unamortized compensation expense will be recognized over the next 2.71 years. At December 31, 2018 and 2017, the unamortized compensation expense was $0.8 million and $1.1 million respectively under our ESPP. The remaining unamortized expense will be recognized over the next 11.2 months. At December 31, 2018, the unamortized compensation expense related to unvested restricted stock units was $0.7 million, which will be recognized over the next 2.15 years.

8. Commitments and Contingencies

Operating leases

The Company leases office and laboratory space in Monrovia, CA through June 2020. In July 2017, the Company entered into an amended lease agreement for additional space in the same building. The amended lease has a 64-month term with an option to renew for an additional five years. The lease terms for the original space were not amended.

The Company also leases office space in San Diego, CA through June 2020. In June 2017, the Company entered into a new lease agreement for an additional office space. The new lease has a 61-month term beginning from the date of occupancy and includes an option to renew for an additional five years. At December 31, 2018 the future minimum lease payments under the operating leases were as follows:

Years ending December 31,	Operating Leases
2019	$ 2,752
2020	2,404
2021	1,980
2022	1,406
2023	—
Thereafter	—

Rent expenses for the years ended December 31, 2018, 2017 and 2016 were $2.5 million, $1.7 million, and $0.6 million, respectively.

Contingencies

From time to time, the Company may be subject to various litigation and related matters arising in the ordinary course of business. The Company does not believe it is currently subject to any material matters where there is at least a reasonable possibility that a material loss may be incurred.

On March 3, 2015, a verified class action complaint, captioned DePinto v. John S. Stafford, et al., C.A. No. 10742, was filed in the Court of Chancery of the State of Delaware against certain of the Company's current and former directors alleging cause of action for Breach of Fiduciary Duty and Invalidity of Director and Stockholder Consents and that the defendants breached their fiduciary duties in the course of approving a series of transactions. The complaint related to a financial recapitalization of the Company and certain related transactions that the Company completed in 2013.

On September 27, 2016, the parties engaged in voluntary mediation and agreed to settle the complaint's outstanding claims for a total payment of $2.375 million to the class certified by the Delaware Court of Chancery. The settlement was reached without any party admitting wrongdoing. Under the terms of the settlement, no payment shall be made to the plaintiffs by the Company or any of the defendants in the lawsuit other than payments covered by the Company's insurance.

On April 4, 2017, the Delaware Court of Chancery approved the settlement between the parties. On May 1, 2017, the Company's insurance carriers fully funded the settlement account.

We recognized legal costs related to the litigation as incurred and offset any insurance proceeds when approved and issued. For the year ended December 31, 2017 no amount of loss related to the settlement has been accrued. At December 31, 2016, we reported the outstanding settlement amount of $2.355 million as a payable and reflected a receivable of the same amount for the insurance coverage. This amount was paid by the insurance carrier on our behalf in May 2017.

We are obligated to make future payments to third parties under in-license agreements, including sublicense fees, royalties, and payments that become due and payable on the achievement of certain development and commercialization milestones. As the amount and timing of sublicense fees and the achievement and timing of these milestones are not probable and estimable, such commitments have not been included on our balance sheet. We have also entered into agreements with third party vendors which will require us to make future payments upon the delivery of goods and services in future periods.

Guarantees

In the normal course of business, we indemnify certain employees and other parties, such as collaboration partners and other parties that perform certain work on behalf of, or for the Company or take licenses to our technologies. We have agreed to hold these parties harmless against losses arising from our breach of representations or covenants, intellectual property infringement or other claims made against these parties in performance of their work with us.

These agreements typically limit the time within which the party may seek indemnification by us and the amount of the claim. It is not possible to prospectively determine the maximum potential amount of liability under these indemnification agreements since we have not had any prior indemnification claims on which to base the calculation. Further, each potential claim would be based on the unique facts and circumstances of the claim and the particular provisions of each agreement. We are not aware of any potential claims and we did not record a liability as of December 31, 2018 and 2017.

9. Collaboration and Licensing Agreements

Following is a summary description of the material revenue arrangements, including arrangements that generated revenue in the period ended December 31, 2018, 2017, and 2016. The revenue reported for each agreement has been adjusted to reflect the adoption of ASC 606 for each period presented.

Novartis

In June 2016, the Company entered into a Collaboration and License Agreement (Novartis Agreement) with Novartis Institutes for BioMedical Research, Inc. (Novartis), to develop and commercialize bispecific and other Fc engineered antibody drug candidates using the Company's proprietary XmAb® technologies and drug candidates. Pursuant to the Novartis Agreement:

- The Company granted Novartis certain exclusive rights to research, develop and commercialize XmAb14045 and XmAb13676, two development stage products that incorporate the Company's bispecific Fc technology;
- The Company will apply its bispecific technology in up to four target pair antibodies identified by Novartis (each a Global Discovery Program); and
- The Company will provide Novartis with a non-exclusive license to certain of its Fc technologies to apply against up to ten targets identified by Novartis.

The Company received a non-refundable upfront payment under the Novartis Agreement of $150 million in July 2016 and is eligible to receive up to $2.1 billion in future development, regulatory and sales milestones in total for all programs that could be developed under the Novartis Agreement. In December 2018, Novartis notified the Company it was terminating its rights with respect to the XmAb13676 program, which will be effective June 2019. Under the Agreement, Novartis is responsible to fund its share of XmAb13676 development costs through June 2020.

Under the Novartis Agreement, the Company granted Novartis a worldwide co-exclusive license with the Company to research, develop and manufacture XmAb14045. The Company also granted Novartis an exclusive license to commercialize XmAb14045 in all worldwide territories outside the U.S.

The Company and Novartis will co-develop XmAb14045 worldwide and share development costs. The Company may elect to opt-out of the development of XmAb14045 by providing notice to Novartis. If the Company elects to opt-out, Novartis will receive the Company's U.S. rights to XmAb14045 and the Company will receive low double-digit royalties on U.S. net sales in addition to the royalties on net sales outside the U.S.

Pursuant to the Novartis Agreement, the Company will apply its bispecific technology to up to four target pair antibodies selected, if available for exclusive license to Novartis and not subject to a Company internal program. The Company will apply its bispecific technology to generate bispecific antibody candidates from starting target pair antibodies provided by Novartis for each of the four Global Discovery Programs and return the bispecific product candidate to Novartis for further testing, development and commercialization. Novartis has the right to substitute up to four of the original selected target pair antibodies during the research term provided that Novartis has not filed and received acceptance for an Investigational New Drug Application (IND) with the Company provided bispecific candidate. The research term is five years from the date of the Novartis Agreement.

We completed delivery of a Global Discovery Program in 2017 and delivery of a second Global Discovery Program in 2018.

Novartis will assume full responsibility for development and commercialization of each product candidate under each of the Global Discovery Programs.

Under the Novartis Agreement, the Company has the right to participate in the development and commercialization of one of the Global Discovery Programs prior to filing an IND for the Global Discovery Program. If the Company elects to participate in development, it will assume responsibility for 25% of the worldwide development costs for the program and 50% of commercialization costs and will receive 50% of the U.S. profits on net sales of the product.

Under the Novartis Agreement, the Company also granted Novartis a non-exclusive research license to use certain of the Company's Fc technologies, specifically Cytotoxic, Xtend and Immune Inhibitor, to research, develop, commercialize and manufacture antibodies against up to ten targets selected by Novartis, if available for non-exclusive license and not subject to a Company internal program. Novartis will assume all research, development and commercialization costs for products that are developed from application of the Fc technologies.

The Company evaluated the Novartis Agreement under the new revenue recognition standard ASC 606 and concluded that Novartis is a customer. The Company identified the following performance obligations that it deemed to be distinct at the inception of the contract:

- License to certain rights to Xencor's XmAb14045 and XmAb13676;
- Develop four bispecific drug candidates against four targets identified by Novartis; and
- License to Xencor's Fc technologies for up to 10 targets identified and selected by Novartis.

The Company considered the licenses as functional intellectual property as Novartis has the right to access its technology and such technology is functional to Novartis at the time that the Company provides access. Under the Novartis Agreement, Novartis has substitution rights under each discovery program provided it has not advanced to filing an IND. The Company's obligation to provide services related to the discovery programs, and Novartis' right to substitute programs is limited to the five-year period from the date of the Novartis agreement.

The Company determined the transaction price at inception is the $150 million upfront payment to be allocated to the performance obligations. The Novartis Agreement includes variable consideration for potential future milestones and royalties that were contingent on future success factors for development programs. The Company used the "most likely" method to determine the variable consideration. None of the development, regulatory or sales milestones or royalties were included in the transaction price. The Company will re-evaluate the transaction price in each reporting period as uncertain events are resolved or other changes in circumstances occur.

The Company determined the transaction price at inception of the Novartis Agreement and allocated it to the various performance obligations using the standalone selling price which is comparable to the relative selling price methodology used in the original accounting treatment for the transaction.

The transaction price of $150 million was allocated to the performance obligations as follows:

- $27.1 million to certain rights to the XmAb14045 Program;
- $31.4 million to certain rights to the XmAb13676 Program;
- $20.05 million to each of the four Global Discovery Programs; and
- $11.3 million to the Fc licenses.

Under ASC 606, revenue is recognized at the time that the Company's performance obligation for each Global Discovery is completed upon delivery of each discovery program to Novartis. The Company delivered a discovery program to Novartis in 2017 and recognized $20.05 million of revenue in the period of delivery. In the third quarter of 2018, the Company delivered a second discovery program to Novartis and is recognizing an additional $20.04 million of revenue.

Under ASC 606 the entire amount of revenue allocated to the Fc licenses is being recognized at inception of the Novartis Agreement, the second quarter of 2016.

During the year ended December 31, 2018, 2017 and 2016, the Company recognized $20.0 million, $20.1 million and $69.9 million of revenue respectively. As of December 31, 2018 there is a receivable of $2.1 million and $40.1 million in deferred revenue related to the arrangement.

Amgen Inc.

In September 2015, the Company entered into a research and license agreement (the Amgen Agreement) with Amgen Inc. (Amgen) to develop and commercialize bispecific antibody product candidates using the Company's proprietary XmAb® bispecific Fc technology. Under the Amgen Agreement, the Company granted an exclusive license to Amgen to develop and commercialize bispecific drug candidates from the Company's preclinical program that bind the CD38 antigen and the cytotoxic T-cell binding domain CD3, (the CD38 Program). The Company also agreed to apply its bispecific technology to five previously identified Amgen provided targets (each a Discovery Program). The Company received a $45 million upfront payment from Amgen and is eligible to receive up to $600 million in future development, regulatory and sales milestones in total for programs in development and is eligible to receive royalties on any global net sales of products.

Pursuant to the Amgen Agreement, the Company applied its bispecific technology to five Discovery Programs antibody molecules provided by Amgen that bind Discovery Program targets and returned the bispecific product candidates to Amgen for further testing, development and commercialization. The initial research term was three years from the date of the Amgen Agreement, but Amgen, at its option, may request an extension of one year. In May 2018, Amgen notified the Company that it was electing to extend the term of the research term for one year. Pursuant to the Amgen Agreement, Amgen and the Company will agree upon a detailed plan for services to be provided by the Company during the extended research term. The Company will receive research funding for the additional services provided during the extended research term.

Amgen will assume full responsibility for development and commercialization of product candidates under each of the Discovery Programs.

The Company evaluated the Amgen Agreement under ASC 606 and determined that it is a customer and that delivery of the CD38 Program and each of the five Discovery Programs represent the performance obligations under the contract.

The Company determined the transaction price at inception is the $45 million upfront payment to be allocated to the performance obligations. The Amgen Agreement includes variable consideration for potential future milestones and royalties that were contingent on future success factors for development programs. The Company used the "most likely" method to determine the variable consideration. In the fourth quarter of 2017, the Company received a $10 million development milestone related to the CD38 program, now AMG424, and this payment was included in the transaction price as uncertainty associated with it has been resolved. In the fourth quarter of 2018, the Company received a $0.5 million preclinical milestone related to one of the discovery programs. No other development, regulatory or sales milestones or royalties were included in the transaction price. The Company will re-evaluate the transaction price in each reporting period and as uncertain events are resolved or other changes in circumstances occur.

In allocating the transaction price determined at inception, the Company determined that ASC 606 provides the use of a standalone selling price for the transaction.

The transaction price of $55.5 million was allocated to the performance obligations as follows:

* $23.75 million to the CD38 Program and
* $6.25 million to each of the five Discovery Programs

Under ASC 606, the amount of revenue recognized for the CD38 program is recognized at the inception of the contract when delivery of the CD38 Program and materials was transferred to Amgen. The $10 million milestone revenue was recognized in the period that the uncertainty regarding the event is resolved, i.e., when the milestone event occurred.

The Company completed performance obligations for the five discovery programs in 2016 when all five of the Discovery Programs were delivered to Amgen. Pursuant to ASC 606 the Company recognized $31.25 million of revenue for delivery of the five discovery programs in 2016. In the fourth quarter of 2018, a $0.5 million milestone payment was received in connection with a preclinical development of a discovery program.

In the third quarter of 2018, the Company and Amgen agreed upon additional scope of work to be performed by the Company; the work has been completed in 2018.

During the years ended December 31, 2018, 2017 and 2016, the Company recognized $0.6 million, $10.0 million and $31.2 million in revenue, respectively, under this arrangement. As of December 31, 2018 there was no deferred revenue related to the arrangement.

Novo Nordisk A/S

In December 2014, the Company entered into a Collaboration and License Agreement with Novo Nordisk A/S (Novo). Under the terms of the agreement, the Company granted Novo a research license to use certain Company technologies during a two-year research term. The Company received an upfront payment of $2.5 million and research funding of $1.6 million per year over the research term. This agreement was terminated by Novo in 2016.

There was no revenue recognized for the year ended December 31, 2018 and 2017. For the year ended in December 31, 2016, the total revenue recognized under this agreement was $2.7 million. As of December 31, 2018 the Company has no deferred revenue related to the agreement.

MorphoSys Ag

In June 2010, the Company entered into a Collaboration and License Agreement with MorphoSys AG (MorphoSys), which was subsequently amended in March 2012. The agreement provided us an upfront payment of $13 million in exchange for an exclusive worldwide license to the Company's patents and know-how to research, develop and commercialize our XmAb5574 product candidate (subsequently renamed MOR208) with the right to sublicense under certain conditions. Under the agreement, the Company agreed to collaborate with MorphoSys to develop and commercialize XmAb5574/MOR208. If certain developmental, regulatory and sales milestones are achieved, the Company is eligible to receive future milestone payments and royalties.

In June 2017, MorphoSys initiated a Phase III clinical trial under the arrangement for which the Company received a milestone payment of $12.5 million. The Company recognized the payment as revenue in the period that the milestone event occurred.

The Company recognized $12.5 million of revenue for the year end December 31, 2017. There were no revenues recognized under this arrangement for the years ended December 31, 2018 and 2016. As of December 31, 2018, the Company has no deferred revenue related to this agreement.

Alexion Pharmaceuticals, Inc.

In January 2013, the Company entered into an option and license agreement with Alexion Pharmaceuticals, Inc. (Alexion). Under the terms of the agreement, the Company granted to Alexion an exclusive research license, with limited sublicensing rights, to make and use our Xtend technology to evaluate and advance compounds against six different target programs during a five-year research term under the agreement, up to completion of the first multi-dose human clinical trial for each target compound.

Under the agreement, the Company received an upfront payment of $3.0 million and also an annual maintenance fee of $0.5 million during the research term of the agreement. In addition, the Company is eligible to receive contractual milestones for certain development, regulatory and commercial achievements. If licensed products are successfully commercialized, the Company is also entitled to receive royalties based on a percentage of net sales of such products sold by Alexion, its affiliates or its sub licensees, which percentage is in the low single digits. Alexion's royalty obligations continue on a product-by-product and country-by- country basis until the expiration of the last-to-expire valid claim in a licensed patent covering the applicable product in such country.

In December 2016, Alexion achieved a Phase 3 clinical development milestone for ALXN1210.

In the third quarter of 2018, Alexion completed certain regulatory submission filings for ALXN1210 and the Company received $9 million in milestone payments. In the fourth quarter of 2018, Alexion completed certain regulatory submission filings for ALXN 1210 and also received FDA marketing approval for ALXN 1210, now Ultomiris, and the Company received $11 million in milestone payments.

The Company determined Alexion to be a customer and the license of the Company's Xtend intellectual property is functional intellectual property, distinct and is the only performance obligation under the agreement. The upfront fee, the net present value of the annual maintenance fees, the option exercise fee and milestone payments of $36.5 million already received represent the total transaction price at inception. The option exercise fee does not provide a discount on future services and does not grant a material right. Under ASC 606 the upfront payment and the present value of the annual licensing fees are recognized at inception of the agreement when Alexion was provided access to the technology.

The total revenue recognized under this arrangement was $20.0 million and $5.0 million for the years ended December 31, 2018 and 2016, respectively. There was no revenue recognized for the year ended December 31, 2017. As of December 31, 2018 there is no deferred revenue related to this agreement.

Boehringer Ingelheim International GmbH

In 2007 the Company entered into a Research Licensee and Collaboration Agreement with Boehringer Ingelheim International GmbH (BI). Under the agreement, the Company provided BI with a three-year research license to one of the Company's technologies and commercial options. BI elected to exercise two commercial licenses from compounds identified during the research term and one compound is currently in clinical development. No revenue related to this arrangement was recognized in 2018, 2017 or 2016. There is no deferred revenue related to this agreement at December 31, 2018.

CSL Limited

In February 2009, the Company entered into a research license and commercialization agreement with CSL Limited (CSL). Under the agreement, the Company provided CSL with a research license to our Fc Cytotoxic technology and options to non-exclusive commercial licenses. CSL elected to exercise one commercial license for a compound, CSL362.

In 2013 CSL sublicensed CSL362 (now called talacotuzumab) to Janssen Biotech Inc. (Janssen Biotech). In March 2017, CSL, through its sub-licensee, Janssen Biotech, initiated a Phase 3 clinical trial for CSL362 and the Company received a milestone payment of $3.5 million.

There was no revenue recognized for the years ended December 31, 2018 and 2016. Total revenue recognized for the year ended December 31, 2017 was $3.5 million. As of December 31, 2018, there is no deferred revenue related to this agreement.

Merck Sharp & Dohme Corp.

In July 2013, the Company entered into a License Agreement with Merck Sharp & Dohme Corp (Merck). Under the terms of the agreement, the Company provided Merck with a non-exclusive commercial license to certain patent rights to our Fc domains to apply to one of their compounds. The agreement provided for an upfront payment of $1.0 million and annual maintenance fees totaling $0.5 million.

In February 2018, Merck provided notice that it is terminating the agreement. The Company did not recognize any revenue for each of the years ended December 31, 2018, 2017 and 2016. As of December 31, 2018, there is no deferred revenue related to this agreement.

INmune Bio, Inc.

In October 2017, the Company entered into a License Agreement with INmune Bio, Inc. (INmune). Under the terms of the agreement, the Company provided INmune with an exclusive license to certain rights to a proprietary protein, XPRO1595. Under the agreement the Company received an upfront payment of $100,000, a 19% fully-diluted equity interest in INmune and an option to acquire additional shares of INmune. The Company is eligible to receive a percentage of sublicensing revenue received for XPRO1595 and also royalties in the mid-single digit percent on the sale of approved products.

The equity interest in INmune constituted 1,585,000 shares of common stock and the option is to purchase an additional 10% of the fully diluted interest in INmune for $10 million.

In 2018, INmune filed a registration statement on a Form S-1 with the Securities and Exchange Commission (SEC) which was declared effective by the SEC as of December 19, 2018.

Under ASC 606, the Company determined that the performance obligation under the agreement was the license to XPRO1595 and performance occurred at the effective date of the agreement. The total consideration under the agreement was determined to be $100,000 as the equity interest and the option had an insignificant fair value. The Company recognized $100,000 as revenue related to the agreement for the year ended December 31, 2017, and did not recognize any revenue related to the agreement for the year ended December 31, 2018. There is no deferred revenue as of December 31, 2018 related to this agreement.

Revenue earned

The $40.6 million, $46.2 million and $109.0 million of revenue recorded for the years ended December 31, 2018, 2017 and 2016, respectively, was earned principally from the following licensees (in millions):

	Year Ended December 31,		
	2018	2017 (As Revised)	2016 (As Revised)
Amgen	$ 0.6	$ 10.0	$ 31.2
Alexion	20.0	—	5.0
CSL	—	3.5	—
MorphoSys	—	12.5	—
Novo Nordisk	—	—	2.7
Novartis	20.0	20.1	69.9
Other	—	0.1	0.2
Total	$ 40.6	$ 46.2	$ 109.0

The below table summarizes the disaggregation of revenue recorded for the years ended December 31, 2018, 2017 and 2016 (in millions):

	Year Ended December 31,		
	2018	2017 (As Revised)	2016 (As Revised)
Research collaboration	$ 20.1	$ 20.1	$ 34.2
Milestone	20.5	26.0	5.0
Licensing	—	0.1	69.8
Total	$ 40.6	$ 46.2	$ 109.0

A portion of our revenue is earned from collaboration partners outside the United States. Non-U.S. revenue is denominated in U.S. dollars. A breakdown of our revenue from U.S. and Non-U.S. sources for the years ended December 31, 2018, 2017 and 2016 is as follows (in millions):

	Year Ended December 31,		
	2018	2017 (As Revised)	2016 (As Revised)
U.S. Revenue	$ 40.6	$ 30.2	$ 106.3
Non-U.S. Revenue	—	16.0	2.7
Total	$ 40.6	$ 46.2	$ 109.0

Remaining Performance Obligations and Deferred Revenue

Our only remaining performance obligations are the Global Discovery Programs under the Novartis Agreement. As of December 31, 2018 and 2017, we have deferred revenue of $40.1 million and $60.1 million, respectively. We classified the deferred revenue as current liabilities as our obligations to perform services are due on demand when requested by Novartis under the Agreement.

10. 401(k) Plan

We have a 401(k) plan covering all full-time employees. Employees may make pre-tax contributions up to the maximum allowable by the Internal Revenue Code. Effective January 1, 2018, the Company contributes 100% of the first 1% of participating employees' contribution and 50% of the next 5% of participating employees' contribution, for a maximum of 3.5% employer contribution. Participants are immediately vested in their employee contributions; employer contributions are vested over a three-year period with one-third for each year of a participating employee's service. Employer contributions made for the year ended December 31, 2018 was $0.5 million. No employer contributions were made for the years ended December 31, 2017 and 2016.

11. Condensed Quarterly Financial Data (unaudited)

The following table contains selected unaudited financial data for each quarter of 2018 and 2017. The unaudited information should be read in conjunction with the Company's financial statements and related notes included elsewhere in this report. The Company believes that the following information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

Quarterly Financial Data (in thousands, except per share data):

	2018 Quarter Ended			
	March 31,	June 30,	September 30,	December 31,
Total revenue	$ —	$ —	$ 29,039	$ 11,564
Income (loss) from operations	(30,649)	(28,290)	651	(21,082)
Net income (loss)	(29,493)	(25,869)	3,150	(18,197)
Basic net income (loss) per common share	(0.62)	(0.46)	0.06	(0.32)
Diluted net income (loss) per common share	(0.62)	(0.46)	0.05	(0.32)

	2017 Quarter Ended			
	March 31, (As Revised)	June 30, (As Revised)	September 30, (As Revised)	December 31, (As Revised)
Total revenue	$ 3,500	$ 12,500	$ —	$ 30,150
Income (loss) from operations	(16,359)	(8,510)	(23,580)	5,326
Net income (loss)	(15,475)	(7,725)	(22,652)	7,366
Basic net income (loss) per common share	(0.33)	(0.17)	(0.48)	0.16
Diluted net income (loss) per common share	(0.33)	(0.17)	(0.48)	0.15

12. Prior-Period Financial Statements

The Company adopted ASC 606 on January 1, 2018 using the full retrospective method and as a result the Company has revised its comparative financial statements for the prior period as if ASC 606 had been in effect for that period.

The most significant changes to revenue recognition under ASC 606 relate to the timing of revenue recognized for arrangements that include licensing of our technologies. Under ASC 606 revenue related to licensing of access to our technologies is recognized at inception of the agreement, generally the effective date of the agreement. For existing licensing arrangements, the effect of ASC 606 is to shift revenue to earlier periods. Approximately $11.3 million of licensing revenue that was being recognized over the five-year period 2016-2021 is being recognized in the second quarter of 2016.

The other significant change under ASC 606 relates to the timing of collaboration revenue when the Company completes its performance obligations for delivery of a drug candidate to its collaboration partners after applying its technologies. For existing collaborations, the effect of ASC 606 is to accelerate revenue recognition to earlier periods. Approximately $6.25 million of collaboration revenue recognized in 2017 and 2018 under historical accounting guidance is being recognized in 2016 under ASC 606. An additional $20.5 million of collaboration revenue that would be recognized in 2018 is being recognized in 2017. The following tables summarize the effects of adopting ASC topic 606 on our financial statements.

Balance Sheet

	As Reported December 31, 2017	Effect of Adoption of ASC 606	As Revised December 31, 2017
Assets			
Current assets			
Cash and cash equivalents	$ 16,528	$ —	$ 16,528
Marketable securities	207,603	—	207,603
Accounts receivable	1,142	—	1,142
Prepaid expenses and other current assets	5,606	—	5,606
Total current assets	230,879	—	230,879
Property and equipment, net	7,088	—	7,088
Patents, licenses, and other intangible assets, net	11,148	—	11,148
Marketable securities - long term	139,198	—	139,198
Income tax receivable	1,524	—	1,524
Loan receivable	—	86	86
Interest receivable	—	14	14
Other assets	265	—	265
Total assets	$ 390,102	$ 100	$ 390,202
Liabilities and stockholders' equity			
Current liabilities			
Accounts payable	$ 6,869	$ —	$ 6,869
Accrued expenses	5,480	—	5,480
Current portion of deferred rent	26	—	26
Current portion of deferred revenue	88,813	(28,695)	60,118
Income taxes	157	—	157
Total current liabilities	101,345	(28,695)	72,650
Deferred rent, less current portion	1,088	—	1,088
Deferred revenue, less current portion	5,623	(5,623)	—
Total liabilities	108,056	(34,318)	73,738
Commitments and contingencies			
Stockholders' equity			
Preferred stock, $0.01 par value: 10,000,000 authorized shares; -0- issued and outstanding shares at December 31, 2017	—	—	—
Common stock, $0.01 par value: 200,000,000 authorized shares at December 31, 2017; 47,002,488 issued and outstanding at December 31, 2017	470	—	470
Additional paid-in capital	570,670	—	570,670
Accumulated other comprehensive income loss	(1,808)	—	(1,808)
Accumulated deficit	(287,286)	34,418	(252,868)
Stockholders' equity	282,046	34,418	316,464
Total liabilities and stockholders' equity	$ 390,102	$ 100	$ 390,202

Statement of Operation

	As Reported Year Ended December 31, 2017	Effect of Adoption of ASC 606	As Revised Year Ended December 31, 2017
Revenue			
Collaborations, licenses and milestones	$ 35,711	$ 10,439	$ 46,150
Operating expenses			
Research and development	71,772	—	71,772
General and administrative	17,501	—	17,501
Total operating expenses	89,273	—	89,273
Loss from operations	(53,562)	10,439	(43,123)
Other income (expenses)			
Interest income	4,194	—	4,194
Interest expense	(13)	—	(13)
Other income	(7)	—	(7)
Total other income, net	4,174	—	4,174
Loss before income tax benefit	(49,388)	10,439	(38,949)
Income tax benefit	(463)	—	(463)
Net loss	(48,925)	10,439	(38,486)
Other comprehensive loss			
Net unrealized loss on marketable securities	(367)	—	(367)
Comprehensive loss	$ (49,292)	$ 10,439	$ (38,853)
Basic and diluted net loss per common share	$ (1.05)	$ 0.23	$ (0.82)

	As Reported Year Ended December 31, 2016	Effect of Adoption of ASC 606	As Revised Year Ended December 31, 2016
Revenue			
Collaborations, licenses and milestones	$ 87,520	$ 21,500	$ 109,020
Operating expenses			
Research and development	51,872	—	51,872
General and administrative	13,108	—	13,108
Total operating expenses	64,980	—	64,980
Income from operations	22,540	21,500	44,040
Other income (expenses)			
Interest income	2,091	—	2,091
Interest expense	(21)	—	(21)
Other income	6	—	6
Total other income, net	2,076	—	2,076
Income before income tax expense	24,616	21,500	46,116
Income tax expense	991	—	991
Net income	23,625	21,500	45,125
Other comprehensive loss			
Net unrealized loss on marketable securities	(925)	—	(925)
Comprehensive income	$ 22,700	$ 21,500	$ 44,200
Basic net income per common share	$ 0.57	$ 0.52	$ 1.09
Diluted net income per common share	$ 0.56	$ 0.51	$ 1.07

Statement of Stockholders' Equity

Stockholders' Equity	Common Stock Shares	Common Stock Amount	Additional Paid in-Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance, December 31, 2016 as originally reported	46,567,978	$ 466	$ 552,889	$ (1,441)	$ (237,960)	$ 313,954
Adoption of ASU 2016-09	—	—	401	—	(401)	—
Adoption of ASC 606	—	—	—	—	23,979	23,979
Balance, December 31, 2016 as revised	46,567,978	466	553,290	(1,441)	(214,382)	337,933
Issuance of common stock upon exercise of stock awards	363,603	4	2,793	—	—	2,797
Issuance of common stock under the Employee Stock Purchase Plan	70,907	—	936	—	—	936
Comprehensive loss	—	—	—	(367)	(48,925)	(49,292)
Stock-based compensation	—	—	13,651	—	—	13,651
Balance, December 31, 2017	47,002,488	$ 470	$ 570,670	$ (1,808)	$ (263,307)	$ 306,025
Adoption of ASC topic 606	—	—	—	—	10,439	10,439
Balance, December 31, 2017 as revised	47,002,488	$ 470	$ 570,670	$ (1,808)	$ (252,868)	$ 316,464

Stockholders' Equity	Common Stock Shares	Common Stock Amount	Additional Paid in-Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
Balance, December 31, 2015 as originally reported	40,551,039	$ 405	$ 424,128	$ (516)	$ (261,585)	$ 162,432
Adoption of ASC Topic 606	—	—	—	—	2,479	2,479
Balance, December 31, 2015 as revised	40,551,039	405	424,128	(516)	(259,106)	164,911
Sale of common stock, net of issuance cost	5,272,750	53	119,216	—	—	119,269
Issuance of common stock upon exercise of stock awards	699,066	7	1,153	—	—	1,160
Issuance of common stock under the Employee Stock Purchase Plan	45,123	1	544	—	—	545
Comprehensive income (loss)	—	—	—	(925)	23,625	22,700
Stock-based compensation	—	—	7,848	—	—	7,848
Balance, December 31, 2016	46,567,978	466	552,889	(1,441)	(235,481)	316,433
Adoption of ASC Topic 606	—	—	—	—	21,500	21,500
Balance, December 31, 2016 as revised	46,567,978	$ 466	$ 552,889	$ (1,441)	$ (213,981)	$ 337,933

Statement of Cash Flows

	As Reported Year Ended December 31, 2017	Effect of Adoption of ASC 606	As Revised Year Ended December 31, 2017
Cash flows from operating activities			
Net loss	$ (48,925)	$ 10,439	$ (38,486)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	2,030	—	2,030
Amortization of premium on marketable securities	2,845	—	2,845
Stock-based compensation	13,651	—	13,651
Abandonment of capitalized intangible assets	396	—	396
Loss on disposal of assets	83	—	83
Changes in operating assets and liabilities:			
Accounts receivable	7,474	—	7,474
Interest receivable	(293)	(14)	(307)
Prepaid expenses and other assets	(2,705)	—	(2,705)
Income tax receivable	(1,524)	—	(1,524)
Other assets	(161)	—	(161)
Accounts payable	2,989	—	2,989
Accrued expenses	(1,212)	—	(1,212)
Deferred rent	589	—	589
Income tax payable	91	—	91
Deferred revenue	(9,011)	(10,339)	(19,350)
Net cash used in operating activities	(33,683)	86	(33,597)
Cash flows from investing activities			
Proceeds from sale and maturities of marketable securities available-for-sale	115,757	—	115,757
Purchase of marketable securities	(76,529)	—	(76,529)
Purchase of intangible assets	(1,967)	—	(1,967)
Purchase of property and equipment	(5,311)	—	(5,311)
Issuance of loan	—	(86)	(86)
Net cash provided by (used in) investing activities	31,950	(86)	31,864
Cash flows from financing activities			
Proceeds from issuance of common stock upon exercise of stock awards	2,797	—	2,797
Proceeds from issuance of common stock from Employee Stock Purchase Plan	936	—	936
Net cash provided by financing activities	3,733	—	3,733
Net increase in cash and cash equivalents	2,000	—	2,000
Cash and cash equivalents, beginning of period	14,528	—	14,528
Cash and cash equivalents, end of period	$ 16,528	$ —	$ 16,528

	As Reported Year Ended December 31, 2016	Effect of Adoption of ASC 606	As Revised Year Ended December 31, 2016
Cash flows from operating activities			
Net income	$ 23,625	$ 21,500	$ 45,125
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	1,466	—	1,466
Amortization of premium on marketable securities	2,037	—	2,037
Stock-based compensation	7,848	—	7,848
Abandonment of capitalized intangible assets	356	—	356
Gain on sale of marketable securities available for sale	(5)	—	(5)
Changes in operating assets and liabilities:			
Accounts receivable	(8,572)	—	(8,572)
Interest receivable	(530)	(79)	(609)
Prepaid expenses and other assets	(1,700)	—	(1,700)
Other assets	(40)	—	(40)
Accounts payable	(2,520)	—	(2,520)
Accrued expenses	3,058	—	3,058
Deferred rent	(89)	—	(89)
Deferred tax liability	65	—	65
Deferred revenue	69,618	(20,800)	48,818
Net cash provided by operating activities	94,617	621	95,238
Cash flows from investing activities			
Proceeds from sale and maturities of marketable securities available-for-sale	105,505	—	105,505
Purchase of marketable securities	(316,149)	—	(316,149)
Purchase of intangible assets	(1,502)	—	(1,502)
Purchase of property and equipment	(1,507)	—	(1,507)
Proceeds from repayment of (investment in) loan receivable	—	(621)	(621)
Net cash used in investing activities	(213,653)	(621)	(214,274)
Cash flows from financing activities			
Proceeds from issuance of common stock upon exercise of stock awards	1,160	—	1,160
Proceeds from issuance of common stock from Employee Stock Purchase Plan	545	—	545
Proceeds from issuance of common stock	126,546	—	126,546
Common stock issuance costs	(7,277)	—	(7,277)
Net cash provided by financing activities	120,974	—	120,974
Net increase in cash and cash equivalents	1,938	—	1,938
Cash and cash equivalents, beginning of period	12,590	—	12,590
Cash and cash equivalents, end of period	$ 14,528	$ —	$ 14,528

13. Subsequent Event

Genentech Agreement

In February 2019, the Company entered into a collaboration and license agreement (the Genentech Agreement) with Genentech, Inc. and F. Hoffmann La-Roche Ltd. (collectively, Genentech) for the development and commercialization of novel IL-15 Collaboration Products, including XmAb24306, an IL-15/IL15Rα cytokine complex engineered with the Company's bispecific Fc and Xtend technologies. The Company's IL-15 bispecific cytokine platform provides a more druggable version of IL-15 with potentially superior tolerability, slower receptor-mediated clearance and a prolonged half-life, and is intended for development with a wide-range of combination agents due to its proposed mechanism of activating tumor-killing immune cells.

Under the terms of the Genentech Agreement, Genentech received an exclusive worldwide license to XmAb24306 and other Collaboration Products, including any new IL-15 programs identified during the joint research collaboration. The Company will receive a non-refundable upfront payment of $120 million after the Genentech Agreement becomes effective and is eligible to receive up to an aggregate of $160 million in clinical milestone payments for each Collaboration Product that advances to Phase 3 clinical trials. The Company is eligible to receive a 45% share of net profits for sales of XmAb24306 and other Collaboration Products, while also sharing in the net losses at the same percentage rate. The parties will also jointly share development and commercialization costs at the same percentage rate, while Genentech will bear launch costs entirely. The profit/cost share is subject to ratchet at the Company's discretion and convertible to a royalty under certain circumstances. The Company and Genentech will also conduct joint research activities for a two-year period to discover additional IL-15 candidates developed from the Company's cytokine and bispecific Fc technologies. The Company will receive a $20 million development milestone for each new Collaboration Product that is identified from the research efforts and advances into a Phase 1 clinical trial.

The Genentech Agreement is subject to customary closing conditions, including clearance under the Hart-Scott-Rodino Antitrust Improvements Act, and closing is expected to occur in the first quarter of 2019.

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

Our management, Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2018. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2018 at the reasonable assurance level.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended). Our management, Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2018. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) (COSO) in Internal Control—Integrated Framework. Based on that assessment and using the COSO criteria, our management, Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2018, our internal control over financial reporting was effective.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during the year ended December 31, 2018, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Controls

Management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all error and all fraud. Controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with the policies or procedures. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Attestation in Internal Control over Financial Reporting

RSM US LLP, our independent registered public accounting firm, has audited our financial statements for the year ended December 31, 2018 and has issued an audit report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018, which is included in Item 8 of this Annual Report on From 10-K.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

We have adopted a code of ethics for directors, officers (including our principal executive officer, principal financial officer and principal accounting officer) and employees, known as the Code of Business Conduct and Ethics. The Code of Business Conduct and Ethics is available on our website at *http://www.xencor.com* under the Corporate Governance section of our Investor Relations page. We will promptly disclose on our website (i) the nature of any amendment to the policy that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and (ii) the nature of any waiver, including an implicit waiver, from a provision of the policy that is granted to one of these specified individuals that is required to be disclosed pursuant to SEC rules and regulations, the name of such person who is granted the waiver and the date of the waiver.

The other information required by this item and not set forth below will be set forth in our 2019 Annual Meeting of Stockholders (Proxy Statement) to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2018, and is incorporated herein by reference.

Audit Committee

The information required by this item will be set forth in the Proxy Statement and incorporated herein by reference.

Item 11. Executive Compensation

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

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

The information required by this item will be set forth in the Proxy Statement 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 Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

Item 15. Exhibits, Financial Statement Schedules

1. *Financial Statements.* We have filed the following documents as part of this Annual Report:

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Report of Independent Registered Public Accounting Firm (RSM US LLP)	79
Balance Sheets	82
Statements of Comprehensive Income (Loss)	83
Statements of Stockholders' Equity	84
Statements of Cash Flows	85
Notes to Financial Statements	86

2. *Financial Statement Schedules.* All schedules have been omitted because they are not applicable or required, or the information required to be set forth therein is included in the Financial Statements or notes thereto included in Item 8 of this Annual Report on Form 10-K.

3. *Exhibits.*

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed with the SEC on December 11, 2013).
3.2	Amended and Restated Bylaws of the Company (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, filed with the SEC on December 11, 2013).
4.1	Form of Common Stock Certificate of the Company (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 25, 2013).
4.2*	Third Amended and Restated Investor Rights Agreement, dated June 26, 2013, among the Company and certain of its stockholders incorporated by reference to Exhibit 4.2 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.1*	Form of Indemnity Agreement between the Company and its directors and officers (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.2*	Xencor, Inc. 2010 Equity Incentive Plan, as amended, and Form of Stock Option Grant Notice, Option Agreement and Form of Notice of Exercise (incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.3*	Xencor, Inc. 2013 Equity Incentive Plan and Form of Stock Option Agreement and Form of Stock Option Grant Notice thereunder (incorporated by reference to Exhibit 10.3 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.4*	Xencor, Inc. 2013 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).

10.5*	Xencor, Inc. Amended and Restated Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed with the SEC on November 5, 2018).
10.6*	Second Amended and Restated Executive Employment Agreement, dated January 1, 2007, by and between the Company and Dr. Bassil I. Dahiyat (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.7*	Offer Letter, dated January 12, 2010, by and between the Company and Dr. Edgardo Baracchini, Jr. (incorporated by reference to Exhibit 10.7 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.8*	Offer Letter, dated September 28, 2009, by and between the Company and Dr. Bruce Carter (incorporated by reference to Exhibit 10.8 to the Company's Registration Statement on Form S-1, as amended (File No. 333- 191689), originally filed with the SEC on October 11, 2013).
10.9*	Amendment to Offer Letter, dated November 18, 2010, by and between the Company and Dr. Bruce Carter (incorporated by reference to Exhibit 10.9 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.10*	Amended Consulting Agreement, dated January 1, 2011, by and between the Company and Development and Strategic Consulting Associates, LLC (incorporated by reference to Exhibit 10.10 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.11*	Offer Letter, dated August 1, 2012, by and between the Company and Dr. Paul Foster (incorporated by reference to Exhibit 10.11 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.12*	Amended and Restated Executive Employment Agreement, dated September 4, 2013, by and between the Company and Dr. Bassil I. Dahiyat (incorporated by reference to Exhibit 10.12 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.13*	Offer Letter, dated September 5, 2013, by and between the Company and Dr. Edgardo Baracchini, Jr. (incorporated by reference to Exhibit 10.13 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.14*	Amended and Restated Severance Agreement, dated September 5, 2013, by and between the Company and Dr. John R. Desjarlais (incorporated by reference to Exhibit 10.14 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.15*	Amended and Restated Change in Control Agreement, dated September 5, 2013, by and between the Company and John J. Kuch (incorporated by reference to Exhibit 10.15 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.16*	Offer Letter, dated August 12, 2013, by and between the Company and Dr. Paul Foster (incorporated by reference to Exhibit 10.16 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).

10.17†	Collaboration and License Agreement, dated June 27, 2010, by and between the Company and MorphoSys AG (incorporated by reference to Exhibit 10.19 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.18†	First Amendment to the Collaboration and License Agreement, dated March 23, 2012, by and between the Company and MorphoSys AG (incorporated by reference to Exhibit 10.20 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.19†	Option and License Agreement, dated January 28, 2013, by and between the Company and Alexion Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.23 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.20†	Collaboration Agreement, dated February 10, 2012, by and between the Company and Boehringer Ingelheim International GmbH (incorporated by reference to Exhibit 10.24 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.21†	Cross-License Agreement, dated December 19, 2012, by and between the Company and MedImmune, LLC (incorporated by reference to Exhibit 10.26 to the Company's Registration Statement on Form S-1, as amended (File No. 333-191689), originally filed with the SEC on October 11, 2013).
10.22	Lease dated January 1, 2015 by and between the Company and BF Monrovia, LLC (incorporated by reference to Exhibit 99.1 to the Company's Form 8-K filed with the SEC on January 5, 2015).
10.23	Master Service Agreement dated July 14, 2014 by and between the Company and KBI Biopharma, Inc. (incorporated by reference to Exhibit 10.26 to the Company's Form 10-K filed with the SEC on February 20, 2015)
10.24	Amendment to Lease dated January 27, 2015 by and between the Company and BF Monrovia, LLC. (incorporated by reference to Exhibit 10.27 to the Company's Form 10-K filed with the SEC on February 20, 2015).
10.25†	Research and License Agreement effective September 15, 2015 between the Company and Amgen Inc., (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on November 4, 2015).
10.26*	Employment Agreement dated December 16, 2015 by and between the Company and Dr. Paul Foster (incorporated by reference to Exhibit 10.29 to the Company's Form 10-K filed with the SEC on March 8, 2016).
10.27*	Severance Agreement, dated May 26, 2016 by and between the Company and Bassil Dahiyat (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on August 3, 2016).
10.28*	Severance Agreement, dated May 26, 2016 by and between the Company and John Kuch (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed with the SEC on August 3, 2016).
10.29*	Severance Agreement, dated May 26, 2016 by and between the Company and John Desjarlais (incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed with the SEC on August 3, 2016).

10.30*	Severance Agreement, dated May 26, 2016 by and between the Company and Lloyd Rowland (incorporated by reference to Exhibit 10.4 to the Company's Form 10-Q filed with the SEC on August 3, 2016).
10.31†	Collaboration and License Agreement, dated June 26, 2016, by and between the Company and Novartis Institutes for BioMedical Research, Inc. (incorporated by reference to Exhibit 10.6 to the Company's Form 10-Q filed with the SEC on August 3, 2016).
10.32	Equity Distribution Agreement, dated September 19, 2016, by and between the Company and Piper Jaffray & Co. (incorporated by reference to Exhibit 99.1 to the Company's Form 8-K filed with the SEC on September 19, 2016).
10.33†	Amendment No. 1, dated September 21, 2016, to the Collaboration and License Agreement by and between the Company and Novartis Institutes for BioMedical Research, Inc. (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed with the SEC on November 2, 2016).
10.34	Office Lease, dated June 21, 2017, by and among the Company and PRII High Bluffs LLC and Collins Corporate Center Partners, LLC (incorporated by reference to Exhibit 99.1 to the Company's Form 8-K filed with the SEC on June 26, 2017).
10.35	Second Amendment to Lease, dated July 5, 2017, by and between the Company and 111 Lemon Investors LLC (incorporated by reference to Exhibit 99.1 to the Company's Form 8-K filed with the SEC on July 10, 2017).
10.36	Transition and Separation Agreement, executed July 31, 2018, by and between the Company and Edgardo Baracchini, Jr. (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on August 7, 2018).
23.1	Consent of Independent Registered Public Accounting Firm (RSM US LLP).
31.1	Certification of the Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
31.2	Certification of the Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
32.1**	Certification of the Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification of the Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Schema Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

† We have received confidential treatment for certain portions of this agreement, which have been omitted and filed separately with the SEC pursuant to Rule 406 under the Securities Act of 1933, as amended.

* Indicates management contract or compensatory plan.

** These certifications are being furnished solely to accompany this annual report pursuant to 18 U.S.C. Section 1350, and are not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and are not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

Xencor, Inc.

Date: February 25, 2019

By: /s/ Bassil I. Dahiyat, Ph.D.
Bassil I. Dahiyat, Ph.D.
President & Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Bassil I. Dahiyat, Ph.D. and John J. Kuch, and each of them, his true and lawful attorneys-in-fact, each with full power of substitution, for him in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact or their substitute or substitutes may do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ BASSIL I. DAHIYAT, PH.D. Bassil I. Dahiyat, Ph.D.	Director, President & Chief Executive Officer (Principal Executive Officer)	February 25, 2019
/s/ JOHN J. KUCH John J. Kuch	Vice President, Finance (Principal Financial and Accounting Officer)	February 25, 2019
/s/ A. BRUCE MONTGOMERY, M.D. A. Bruce Montgomery, M.D.	Director	February 25, 2019
/s/ KURT GUSTAFSON Kurt Gustafson	Director	February 25, 2019
/s/ YUJIRO S. HATA Yujiro S. Hata	Director	February 25, 2019
/s/ KEVIN C. GORMAN, PH.D. Kevin C. Gorman, Ph.D.	Director	February 25, 2019
/s/ RICHARD RANIERI Richard Ranieri	Director	February 25, 2019
/s/ ELLEN G. FEIGAL Ellen G. Feigal	Director	February 25, 2019

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-192635 on Form S-8 and Registration Statement No. 333-213700 on Form S-3 of Xencor, Inc. of our report dated February 25, 2019 related to our audits of the financial statements, and internal controls over financial reporting which appear in this Annual Report on Form 10-K of Xencor, Inc. for the year ended December 31, 2018.

/s/ RSM US LLP

Los Angeles, California
February 25, 2019

Exhibit 31.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE

SARBANES-OXLEY ACT OF 2002

I, Bassil I. Dahiyat, Ph.D., certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 31, 2018 of Xencor, Inc. (the "Company");

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 Company as of, and for, the periods presented in this report;

4. The Company'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 15(d) – 15(f) for the Company 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 Company, 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 Company'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 Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter (the Company's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and

5. The Company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company'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 Company'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 Company's internal control over financial reporting.

/s/ Bassil I. Dahiyat

Bassil I. Dahiyat, Ph.D.
President & Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John J. Kuch, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 31, 2018 of Xencor, Inc. (the "Company");

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 Company as of, and for, the periods presented in this report;

4. The Company'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 15(d) – 15(f)) for the Company 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 Company, 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 Company'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 Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter (the Company's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and

5. The Company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company'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 Company'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 Company's internal control over financial reporting.

/s/ John J. Kuch

John J. Kuch
Chief Financial Officer (Principal Financial Officer)

Date: February 25, 2019

Exhibit 32.1

CERTIFICATION
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

In connection with the Annual Report on Form 10-K of Xencor, Inc. (the "Company") for the period ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Bassil I. Dahiyat, Ph.D., as President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 25, 2019

/s/ Bassil I. Dahiyat

Bassil I. Dahiyat, Ph.D.
President & Chief Executive Officer

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

In connection with the Annual Report on Form 10-K of Xencor, Inc. (the "Company") for the period ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John J. Kuch, as Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 25, 2019

/s/ John J. Kuch
John J. Kuch
Chief Financial Officer

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.